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NAVMC DIRECTIVE 3500.96

Subj: C-20 TRAINING AND READINESS (T&R) MANUAL

Ref: (a) NAVMC DIR 3500.14

Encl: (1) LOCATOR SHEET

1. PURPOSE. To revise training standards and regulations regarding the training of C-20 aircrew per the reference.

2. INFORMATION

a. The purpose of this revision is to align C-20 training standards with Aviation T&R Program Manual regulations per the reference, and to fine-tune core model table construction with Deputy Commandant Aviation's vision to report training level readiness via the T&R core model.

b. Recommended changes to this directive are invited, and will be submitted via the syllabus sponsor and the appropriate chain of command to the Commanding General, Training and Education Command, Aviation Training Branch via e-mail (refer to http://www.tecom.usmc.mil/atb/contacts_.htm) or the Defense Message System using the following plain language address: CG TECOM QUANTICO VA ATB.

3. SCOPE. C-20 aircrew will train to the standards and programs of instruction contained in this directive.

4. COMMAND. This directive is applicable to the Marine Corps Total Force.

5. CERTIFICATION. This directive is reviewed and approved this date.

K. J. STALDER
By direction

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C-20 TRAINING AND READINESS (T&R) MANUAL

RECORD OF CHANGES

Log completed change action as indicated.

Change Number	Date of Change	Date Entered	Signature of Person Incorporated Change

C-20 TRAINING AND READINESS (T&R) MANUAL

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C-20 TRAINING AND READINESS (T&R) MANUAL

CHAPTER 1

C-20G PILOT

FIGURES

*** * N O T E * ***

Crew Resource Management will be briefed for all flights and aircrew positions.

CHAPTER 1

C-20G PILOT

100. C-20G CORE COMPETENCY

1. Mission. The primary mission of the USMC C-20G is to provide the time sensitive air transport of high priority passengers and cargo between and within a theater of war.

2. Mission Essential Task List (METL)

a. (UJTL OP 1.1.2.1) Conduct Airlift in the Joint Operations Area (JOA). Conduct military logistics lifts in support of Joint Operations.

b. (UJTL OP 4.7.3) Provide support to DOD and other Government agencies.

(1) Maintain aircrew and aircraft availability for time-sensitive mission support.

(2) Provide passenger lift support.

(3) Provide cargo lift support.

3. Table of Organization. Refer to Table of Organization #8323 managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for Marine Corps Air Facility Kaneohe Bay and the C-20G aircraft. As of this publication date, the C-20G unit is authorized:

VMR Detachment

1 Aircraft

8 Pilots/4 Crew Chiefs/4 Loadmasters

4. Core Capability Statement. A Core Capable air facility is able to sustain 6 sorties on a daily basis during contingency/combat operations. The above sortie rates are based on a 5-hour sortie duration and aircrew limitations. The core capability will be enhanced or will degrade based on shorter and longer sortie lengths respectively. The unit is able to accomplish all tasks designated in the unit METL from a main base.

5. METL/Core Skill Matrix. Unit core skills directly support the unit METL as follows:

MET	FAM	CPL
a. Conduct Airlift in the JOA.	X	X
b. Provide support to DOD and other Government Agencies.	X	X

6. Qualifications and Designations Tables. The tables below delineate T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All required ground training will be completed prior to completion of the final events. Qualification letters signed by the commanding officer shall be placed in individual NATOPS and APR

jackets. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R coded syllabus events associated with that qualification.

Qualification (Tracking Code)	Initial Qualification Requirements
NATOPS (600E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
Instrument (601E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
T3P Mission (610)	111E(R), 120(R), 130(R), 600E and a qualification letter signed by the commanding officer.
T2P Mission (611)	210E(R), 220, 600E and a qualification letter signed by the commanding officer.
Designation (Tracking Code)	Designation Requirements
FCF (602)	IAW OPNAV 3710.7 and a designation letter signed by the commanding officer.
Aircraft Cmdr (620)	Be nominated by standardization board, complete FAM stage of Core Skills Advanced Phase, complete 320E(R) and 321E(R) and a designation letter signed by the commanding officer.

7. Instructor Requirements. The VMR Detachment should strive to maintain the following numbers for instructor pilots:

Instructor Designation	Squadron Pilots
IP	1
BPI	2
API	2

101. PROGRAMS OF INSTRUCTION (POI) FOR BASIC, TRANSITION, AND CONVERSION PILOT. A pilot must have a minimum 500 hours total flight time in order to be assigned to this POI.

WEEKS	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3-12	Core Skills Introduction Training	CACT/VMR Det
13-65	Core Skills Basic Training	CACT/VMR Det
66-96	Core Skills Advance Training	CACT/VMR Det
97-156	Instructor Under Training	CACT/VMR Det

102. POI FOR REFRESHER PILOT. The pilot must have flown the C-20G in the previous 36 months in order to be assigned to this POI. If greater than 36 months, the pilot shall be assigned to the Basic, Transition, and Conversion POI.

WEEKS	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3-5	Core Skills Introduction Training	CACT/VMR Det
6-9	Core Skills Basic Training	CACT/VMR Det
10-52	Core Skills Advance Training	CACT/VMR Det
53-156	Instructor Under Training	CACT/VMR Det

103. POI FOR INSTRUCTOR PILOT (IP). The pilot must have 1,000 hours of fixed-wing flight time and 100 hours flight time in model in order to be considered for instructor training.

WEEKS	COURSE/PHASE	ACTIVITY
1-2	Instructor Under Training (IUT)	CACT/VMR Det
3-7	Advanced Phase Instructor Training	CACT/VMR Det
8-14	Basic Phase Instructor Training	CACT/VMR Det
15-52	IP Training	CACT/VMR Det

110. SQUADRON LEVEL TRAINING. Ground training requirements are listed separately for each phase and stage of flight training.

120. FLIGHT/SIMULATOR/EVENT TRAINING FOR BASIC, TRANSITION, AND CONVERSION POI

1. Core Skill Introduction Phase

STAGE	# EVENTS (ACFT/SIM)	# HOURS (ACFT/SIM)
Familiarization	1/11	2.0/36.0
Night Familiarization	1/0	2.5/0.0
Cargo and Passenger Loading	3/0	31/0.0
TOTAL FOR PHASE	**5/11**	**35.5/36.0**
COMBINED TOTALS	**16**	**71.5**
ACCUMULATION FOR BASIC POI	**16**	**71.5**

2. Core Skill Basic Phase

STAGE	# EVENTS (ACFT/SIM)	# HOURS (ACFT/SIM)
Familiarization	1/5	2.5/20.0
Cargo and Passenger Loading	3/0	31.0/0.0
TOTAL FOR PHASE	**4/5**	**33.5/20.0**
COMBINED TOTALS	**9**	**53.5**
ACCUMULATION FOR BASIC POI	**25**	**125.0**

3. Core Skill Advanced Phase

STAGE	# EVENTS (ACFT/SIM)	# HOURS (ACFT/SIM)
Familiarization	1/5	2.5/20.0
Cargo and Passenger Loading	5/0	51.0/0.0
TOTAL FOR PHASE	**6/5**	**53.5/20.0**
COMBINED TOTALS	**11**	**73.5**
ACCUMULATION FOR BASIC POI	**36**	**198.5**

121. FLIGHT/SIMULATOR/EVENT TRAINING FOR REFRESHER PILOT

1. Core Skill Introduction Phase

STAGE	# EVENTS (ACFT/SIM)	# HOURS (ACFT/SIM)
Familiarization	1/3	2.0/12.0
Night Familiarization	1/0	2.5/0.0
Cargo and Passenger Loading	2/0	21.0/0.0
TOTAL FOR PHASE	**4/3**	**25.5/12.0**
COMBINED TOTALS	**7**	**37.5**
ACCUMULATION FOR BASIC POI	**7**	**37.5**

2. Core Skill Basic Phase

STAGE	# EVENTS (ACFT/SIM)	# HOURS (ACFT/SIM)
Familiarization	1/3	2.5/12.0
Cargo and Passenger Loading	2/0	21.0/0.0
TOTAL FOR PHASE	**3/3**	**23.5/12.0**
COMBINED TOTALS	**6**	**35.5**
ACCUMULATION FOR BASIC POI	**13**	**73.0**

3. Core Skill Advanced Phase

STAGE	# EVENTS (ACFT/SIM)	# HOURS (ACFT/SIM)
Familiarization	1/3	2.5/12.0
Cargo and Passenger Loading	2/0	20.0/0.0
TOTAL FOR PHASE	**3/3**	**35.5/36.0**
COMBINED TOTALS	**6**	**71.5**
ACCUMULATION FOR BASIC POI	**19**	**144.5**

122. FLIGHT/SIMULATOR/EVENT TRAINING FOR IP

1. Core Skill Introduction Phase

STAGE	# EVENTS (ACFT/SIM)	# HOURS (ACFT/SIM)
Instructor Under Training	0/4	0.0/16.0
Advanced Phase Instructor	1/0	3.0/0.0
Basic Phase Instructor	1/0	3.0/0.0
IP 1/0	3.0/0.0	
TOTAL FOR PHASE	**3/4**	**9.0/16.0**
COMBINED TOTALS	**3/4**	**9.0/16.0**
ACCUMULATION FOR BASIC POI	**3/4**	**9.0/16.0**

130. GROUND/SIMULATOR/FLIGHT EVENT PERFORMANCE REQUIREMENTS

1. General

a. This Manual is designed to provide the most comprehensive training possible yet maintain the flexibility in a rapidly changing operational environment. Maximum use of the CACT approved simulator should be pursued to save both life on the aircraft and to enhance the training provided each PUI.

b. This Manual also draws a distinction between being NATOPS designated in a specific position and being qualified to conduct line missions. When the phase-appropriate instructor deems the PUI aeronautically competent in the specific position sought, he may be appropriately designated at the behest of the commanding officer. However, the PUI must then demonstrate competence on line missions as outlined in each phase in order to be qualified to conduct such line missions.

c. All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance.

d. Pilots shall not begin events annotated with an N until 30 minutes after official sunset. Events annotated with a (N) may be flown at night.

e. A phase-qualified IP shall evaluate all flights annotated with an "E" per the T&R Program Manual, Chapter 3. A phase-qualified IP is defined as an individual that has successfully completed the pertinent events outlined in this Manual and to whom the commanding officer has delegated responsibility to assess aircrew performance during a particular event in a particular phase.

f. The Pilot Training Officer (PTO) shall ensure all Aircrew Evaluation Forms are entered in section 3 of the APR for all initial sorties flown by all Transition, Conversion, and Refresher pilots for all flights designated by a T, R, or C in the flight description. Where applicable, these forms will replace Aircrew Evaluation Forms previously entered in section 3. Transition and Conversion aircrew will fly the entire Basic POI.

g. All simulator flights shall be accomplished through the approved CACT contractor in accordance with appropriate directives. All familiarization flights should be conducted in the simulator under the supervision of an appropriate IP unless noted elsewhere in this Manual; the intent being to maximize pilot training utilizing a high-fidelity FAA certified level-D simulator while reducing wear on the aircraft.

h. Due to the peculiar nature of the C-20G, all aspects of aircraft operation are integrated with the automated systems. As a result, all work typically reserved for Instrument stages of this Manual will be integrated with the Familiarization stages throughout.

i. For the purposes of this Manual, any reference to "T3P," or "Transport Third Pilot," will refer to a pilot that operates the aircraft from the right seat only while a "T2P," or "Transport Second Pilot," may operate the aircraft from either seat.

2. Crew Resource Management (CRM). Aircrews shall include CRM as an integral part of every brief.

131. CORE SKILL INTRODUCTION PHASE

1. Familiarization

a. Purpose. Demonstrate familiarity, as a T3P, with the systems management requirements of the C-20G and proficiency in all takeoff, landing, and en route flight modes.

b. General

(1) All events marked CACT should be accomplished at the approved CACT Simulator site. SFAM 107-110 may be accomplished in the C-20G aircraft as operations dictate.

(2) SFAM-100 thru SFAM-106 shall be instructed by a qualified CACT-approved instructor. An appropriate IP who is trained in accordance with this Manual shall conduct the remaining events, whether the airplane or the simulator is used.

(3) While attending either the CACT-approved Pilot Initial or Pilot Recurrent courses, each pilot will spend 2 hours in the left seat and 2 hours in the right seat for a total of 4 hours.

(4) Every attempt should be made to ensure Navy checklists and procedures are studied and adhered to during the CACT training while operating as both the pilot flying and the pilot not flying.

c. Crew Requirements

(1) SFAM-100 thru SFAM-106 may be accomplished with just the PUI and contractor instructor. However, every attempt should be made to pair up with another Navy/Marine Corps PUI in order to facilitate training using established Navy C-20G procedures. Due to the nature of CACT approved training, there is no requirement for a crew chief.

(2) SFAM-107 thru SFAM-110 events conducted in the CACT approved simulator shall include an IP, PUI, and a crew chief.

(3) All events in the airplane shall include an IP, PUI, and a crew chief.

(4) In any event requiring a crew chief, a phase-qualified pilot may perform the crew chief duties.

d. Ground/Academic Training. Complete the CACT approved Pilot Initial training course.

e. Simulator/Flight Training. (12 Events, 38.0 Hours).

SFAM-100 4.0 CACT

Goal. Perform normal procedures and selected abnormal/emergency procedures during a local training flight.

Requirement. Emphasis should be placed on the following objectives: Preflight Procedures, Takeoff and Departure Phase, In-flight Maneuvers, Instrument Procedures, Landings and Approaches, and Post-flight Procedures. Attention should be given to Communication, Advanced/Automated Cockpits, Situational Awareness, and FMS System Management.

Performance Standard. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to achieve 100% completion. In addition, demonstrate effective use of CRM skills.

SFAM-101 4.0 CACT

Goal. Review normal procedures and selected abnormal/emergency procedures during a local training flight.

Requirement. Review the following objectives: Takeoff and Departure Phase, In-flight Maneuvers, Instrument Procedures, Landings and Approaches, Post-flight Procedures, and introduce selected Normal and Abnormal Procedures. Attention should be

given to Situational Awareness, Advanced/Automated Cockpits, and FMS task management.

Performance Standard. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to achieve 100% completion. In addition, demonstrate effective use of CRM skills.

Prerequisite. SFAM-100.

SFAM-102 4.0 CACT

Goal. Review normal procedures and selected abnormal/emergency procedures during a local training flight.

Requirement. Review the following objectives: Takeoff and Departure Phase, In-flight Maneuvers, Instrument Procedures, Landings and Approaches, and selected Normal/Abnormal Procedures. Attention should be given to stress and workload management.

Performance Standard. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to achieve 100% completion. In addition, demonstrate effective use of CRM skills.

Prerequisite. SFAM-101.

SFAM-103 4.0 CACT

Goal. Review normal procedures and selected abnormal/emergency procedures during a local training flight.

Requirement. Review the following objectives: Takeoff and Departure Phase, In-flight Maneuvers, Instrument Procedures, and selected Normal/Abnormal Procedures. Attention should be given to Communications, Decision Making, and FMS task management.

Performance Standard. The PUI should be able to demonstrate to the instructor normal, abnormal, and selected emergency procedures and checklist usage in a timely and sequentially correct manner. In addition, all maneuvers and procedures must be performed in accordance with the standards required.

Prerequisite. SFAM-102.

SFAM-104 4.0 R CACT

Goal. Perform normal procedures and selected abnormal/emergency procedures during a local training flight with emphasis on Line Mission procedures.

Requirement. Emphasize the following objectives: Takeoff, En Route, Instrument Approaches, Landings, selected Normal/Abnormal/Emergency Procedures. Attention should be given to Situational Awareness and cockpit synergy.

Performance Standard. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to

achieve 100% completion. In addition, demonstrate effective use of CRM skills.

Prerequisite. SFAM-103.

SFAM-105 4.0 R CACT

Goal. Review normal procedures and selected abnormal/emergency procedures during a local training flight with emphasis on Line Mission procedures.

Requirement. Review the following objectives: In-flight Maneuvers, Landings and Approaches, and selected Normal/Abnormal Procedures. Introduce selected other flight procedures. Attention should be given to workload management and communications.

Performance Standard. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to achieve 100% completion. In addition, demonstrate effective use of CRM skills.

Prerequisite. SFAM-104.

SFAM-106 4.0 R CACT

Goal. Stage Check. Satisfactorily perform all procedures on a local training flight with emphasis on aircraft systems and procedural knowledge and flight performance.

Requirement. Review all normal, abnormal, and emergency procedures.

Performance Standard. The PUI should be able to demonstrate to the instructor normal, abnormal, and emergency procedures and checklist usage in a timely and sequentially correct manner. In addition, all maneuvers and procedures must be performed in accordance with the standards required.

Prerequisite. SFAM-105.

SFAM-107 4.0 CACT

Goal. Introduce USMC specific C-20G procedures with emphasis on local Standard Operating Procedures (SOP). Review selected systems and normal/abnormal procedures.

Requirement. Discuss selected systems. Introduce selected precision and non-precision approaches utilizing system automation and both normal and abnormal procedures with at least one to missed approach. Perform multiple landings in a closed pattern.

Performance Standard. Demonstrate sufficient systems and procedural knowledge while competently performing all maneuvers.

Prerequisite. SFAM-106.

Crew Requirements. PUI, IP, and crew chief.

SFAM-108 4.0 CACT N

Goal. Review USMC specific C-20G procedures and practice selected normal, abnormal, and emergency procedures. Emphasis should be placed on night operations.

Requirement. Discuss selected systems. Review selected precision and non-precision approaches utilizing system automation and both normal and abnormal procedures with at least one to missed approach. Perform multiple landings in a closed pattern.

Performance Standard. Demonstrate sufficient systems and procedural knowledge while competently performing all maneuvers.

Prerequisite. SFAM-107.

Crew Requirements. PUI, IP, and CC.

SFAM-109 4.0 CACT

Goal. Review USMC specific C-20G procedures and practice selected normal, abnormal, and emergency procedures.

Requirement. Discuss selected systems. Review selected precision and non-precision approaches utilizing system automation and both normal and abnormal procedures with at least one to missed approach. Perform multiple landings in a closed pattern.

Performance Standard. Demonstrate sufficient systems and procedural knowledge while competently performing all maneuvers.

Prerequisite. SFAM-108.

Crew Requirements. PUI, IP, and CC.

SFAM-110 4.0 CACT

Goal. Stage Check.

Requirement. Discuss selected systems. Demonstrate competence in all areas of C-20G operation

Performance Standard. PUI must demonstrate knowledge of aircraft systems and ability to competently handle the aircraft in all phases of flight.

Prerequisite. SFAM-109.

Crew Requirements. PUI, IP, and CC.

FAM-111 4.0 R 1 C-20G

Goal. Introduce differences between simulator and aircraft in both ground and air operations with emphasis on the landing pattern.

Requirement. Practice all ground and air operations in order to build up confidence in the aircraft. Multiple landings and approaches should be accomplished utilizing both normal and abnormal procedures to include V1 cuts and single-engine approaches/landings.

Performance Standard. PUI must demonstrate in-depth knowledge of aircraft systems and ability to competently handle the aircraft in all phases of flight.

Prerequisite. SFAM-110.

Crew Requirements. PUI, IP, and CC.

3. Night Familiarization

a. Purpose. Become proficient and confident in all aspects of aircraft operation at night.

b. General

(1) This stage is to be flown in the aircraft so as to highlight the differences between the simulator and the C-20G in the night environment.

(2) Takeoff shall not be prior to 30 minutes after official sunset.

c. Crew Requirements. IP, PUI, and a crew chief. If no crew chief is available, a NATOPS qualified pilot may perform the crew chief duties.

d. Ground/Academic Training. None.

e. Simulator/Flight Training. (1 Event, 2.5 Hours).

NFAM-120 2.5 R 1 C-20G N

Goal. Increase comfort and competency in all aspects of night aircraft operation.

Requirement. Discuss aircraft lighting and peculiarities associated with night aircraft operations. Competently perform multiple approaches and landings utilizing normal procedures in the night environment.

Performance Standard. PUI must demonstrate knowledge of aircraft systems and ability to competently handle the aircraft in all phases of flight.

Prerequisite. FAM-111.

4. Cargo and Passenger Loading

a. Purpose. Introduce responsibilities and procedures required during line missions while serving as a Transport Third Pilot.

b. General. Events shall be flown in conjunction with scheduled line missions that include at least 1 required stop at an airfield other than the PUI's home field in addition to the requirements described in each event.

c. Crew Requirements. Unless otherwise noted in the event description, TAC, PUI, crew chief, and loadmaster.

d. Ground/Academic Training. Complete the CPL stage ground school.

e. Flight Training. (3 Event, 31.0 Hours).

CPL-130 10.0 R 1 C-20G (N)

Goal. Familiarize PUI with basics of military logistics missions.

Requirement. Perform duties of Transport Third Pilot as both pilot flying and pilot not flying while executing a line mission.

Performance Standard. Competently perform all duties of a Transport Third Pilot while practicing good CRM.

Prerequisite. NFAM-120.

Crew Requirements. If this event is being conducted as part of the Basic, Transition, Conversion POI, an IP must accompany the PUI.

CPL-131 10.0 1 C-20G (N)

Goal. Familiarize PUI with basics of military logistics missions into and out of a high-density airfield as a Transport Third Pilot.

Requirement. Perform duties of Transport Third Pilot as both pilot flying and pilot not flying while executing a line mission into and out of a higher density traffic airfield.

Performance Standard. Competently perform all duties of a Transport Third Pilot while practicing good CRM. Special attention should be paid to situational awareness while operating around the higher density traffic airfield.

Prerequisite. CPL-130.

CPL-132 11.0 1 C-20G (N)

Goal. Familiarize PUI with the basics of military logistics missions through an international FIR and into an international terminal area as a Transport Third Pilot.

Requirement. Perform duties of Transport Third Pilot as both pilot flying and pilot not flying while executing a line mission through international FIRs and into and out of foreign airfields.

Performance Standard. Competently perform all duties of a Transport Third Pilot while practicing good CRM. Special attention should be paid to international procedures and peculiarities with foreign field operations.

Prerequisite. CPL-130.

132. CORE SKILL BASIC PHASE

1. Familiarization

a. Purpose. Demonstrate familiarity, as a Transport Second Pilot, with the systems management requirements of the C-20G and proficiency in all takeoff, landing, and flight modes and continue the operational development of the PUI in military logistics.

b. General. SFAM-200 thru SFAM-204 should be conducted in the CACT approved simulator with an IP but may be conducted in the aircraft as necessary. FAM-210 shall be conducted in the aircraft.

c. Crew Requirements. BPI, PUI, and crew chief.

d. Flight and Simulator Event Training. (6 Events, 22.5 Hours).

SFAM-200 4.0 CACT

Goal. Introduce normal procedures as a transport second pilot during a local training flight.

Requirement. Discuss operations, limitations, and selected malfunctions of the electrical and oxygen systems and perform proper procedures in response. Discuss flight instruments and selected FMS messages. Perform an aborted takeoff.

Performance Standard. Utilize standardized callouts and acknowledge all Warning and Caution lights.

Prerequisite. CPL-131, CPL-132.

SFAM-201 4.0 CACT

Goal. Review normal procedures and introduce abnormal procedures as a transport second pilot during a local training flight.

Requirement. Discuss operations, limitations, and selected malfunctions of the hydraulic and brake systems and perform proper procedures in response. Discuss peculiarities of single engine operation. Perform single engine work to include V_1 cuts and single engine approaches and missed approaches.

Performance Standard. Demonstrate proper single engine procedures and cockpit management.

Prerequisite. SFAM-200.

SFAM-202 4.0 R CACT

Goal. Review normal procedures and introduce abnormal procedures as a Transport Second Pilot during a local training flight.

Requirement. Discuss operations, limitations, and selected malfunctions of the pneumatic system to include the pressurization, air conditioning, and anti-ice systems. Review single-engine operations. Perform no-flap landing.

Performance Standard. Demonstrate proper procedures and aircraft handling during instrument departures and missed approaches.

Prerequisite. SFAM-201.

SFAM-203 4.0 R CACT

Goal. Review all aspects of aircraft handling as a Transport Second Pilot.

Requirement. Discuss aircraft performance calculations and operations, limitations, and selected malfunctions of the fuel and oil systems and perform proper procedures in response. Review single-engine and high-hot-heavy operations.

Performance Standard. Demonstrate proper procedures and aircraft handling during all phases of flight.

Prerequisite. SFAM-202.

SFAM-204 4.0 R CACT

Goal. Stage Check.

Requirement. Conduct evaluation of PUI in all aspects of aircraft operation pertinent to a Transport Second Pilot.

Performance Standard. Demonstrate knowledge of systems and competent handling of the aircraft with emphasis on flight skills, situational awareness, and headwork.

Prerequisite. SFAM-203.

FAM-210 2.5 R 1 C-20G

Goal. Introduce aircraft handling differences between simulator and aircraft.

Requirement. Discuss differences between simulator and aircraft with regards to left seat operations. Perform taxi drills to familiarize PUI with aircraft ground handling. Perform multiple landings.

Performance Standard. Demonstrate competence in both air and ground operations in the aircraft while utilizing both normal and abnormal procedures.

Prerequisite. SFAM-204.

2. Cargo and Passenger Loading

a. Purpose. Introduce responsibilities and procedures required during line missions as a Transport Second Pilot.

b. General. Events shall be flown in conjunction with scheduled cross-country missions that include at least 1 required stop at an airfield other than the PUI's home field in addition to the requirements described in each event.

c. Crew Requirements. TAC, PUI, CC, and LM.

d. Flight Training. (3 Events, 31.0 Hours).

CPL-220 10.0 R 1 C-20G (N)

Goal. Introduce PUI to basics of military logistics missions as a Transport Second Pilot.

Requirement. Perform duties of Transport Second Pilot as both pilot flying and pilot not flying while executing a line mission.

Performance Standard. Competently perform all duties of a Transport Second Pilot while practicing good CRM.

Prerequisite. FAM-210

CPL-221 10.0 1 C-20G (N)

Goal. Increase PUI confidence in high-density airfield operations as a Transport Second Pilot.

Requirement. Perform duties of Transport Second Pilot as both pilot flying and pilot not flying while executing a line mission into and out of a higher density traffic airfield.

Performance Standard. Competently perform all duties of a Transport Second Pilot while practicing good CRM. Special attention should be paid to situational awareness while operating around the higher density traffic airfield.

Prerequisite. CPL-220.

CPL-222 11.0 1 C-20G (N)

Goal. Increase PUI confidence in military logistics missions through an international FIR and into an international terminal area as a Transport Second Pilot.

Requirement. Discuss peculiarities of international over-water flight operations. Demonstrate and perform proper communications procedures with different controlling agencies. Perform both pilot flying and pilot not flying duties in conjunction with a line mission across international FIR boundaries and into and out of an international airfield.

Performance Standard. Demonstrate confidence and competence as a Transport Second Pilot in the international arena.

Prerequisite. CPL-220.

133. CORE SKILL ADVANCED PHASE

1. General

a. Aircrew will possess 1000 hours total flight time and must be nominated for this phase by the commanding officer through his standardization board prior to commencing any flights.

b. Emphasis on this phase is flight leadership and aeronautical competence. The PUI must be able to manage the cockpit in all phases of

flight and utilize sound judgment with regard to mission decisions. A sound knowledge of all aircraft systems, local SOP, and USMC OSA procedures is a requirement and shall be thoroughly vetted during the event briefs.

2. Familiarization

a. Purpose. Demonstrate knowledge in aircraft systems and the ability to safely handle all operations with a sub-standard copilot.

b. General. The purpose of this stage is to prepare the PUI for designation as Transport Aircraft Commander by concentrating on basic flying and cockpit leadership.

c. Ground/Academic Training. Complete the CACT approved International Procedures course.

d. Crew Requirements. Events being conducted during the Basic or Refresher POI must include a API, PUI, and CC. A phase-qualified pilot may perform the CC duties. If being conducted as part of the CACT-approved re-currency training, a CACT-approved instructor may be used.

e. Flight and Simulator Event Training. (6 Events, 22.5 Hours).

SFAM-300 4.0 CACT

Goal. Introduce normal procedures as a Transport Aircraft Commander during a local training flight.

Requirement. Discuss selected systems. Introduce normal and abnormal procedures during the course of a local training flight with emphasis on cockpit leadership.

Performance Standard. Utilize standardized callouts and acknowledge all Warning and Caution lights while demonstrating cockpit leadership.

Prerequisite. CPL-221, CPL-222.

SFAM-301 4.0 CACT

Goal. Review normal and abnormal procedures as a Transport Aircraft Commander during a local training flight.

Requirement. Discuss selected systems. Review normal and abnormal procedures during the course of a local training flight with emphasis on cockpit leadership.

Performance Standard. Utilize standardized callouts and acknowledge all Warning and Caution lights while demonstrating cockpit leadership.

Prerequisite. SFAM-300.

SFAM-302 4.0 R CACT

Goal. Review normal and abnormal procedures as a Transport Aircraft Commander during a local training flight.

Requirement. Discuss selected systems. Review normal and abnormal procedures during the course of a local training flight with emphasis on cockpit leadership.

Performance Standard. Utilize standardized callouts and acknowledge all Warning and Caution lights while demonstrating cockpit leadership with a sub-standard co-pilot.

Prerequisite. SFAM-301.

SFAM-303 4.0 R CACT

Goal. Review normal and abnormal procedures as a Transport Aircraft Commander during a local training flight.

Requirement. Discuss selected systems. Review normal and abnormal procedures during the course of a local training flight with emphasis on cockpit leadership.

Performance Standard. Utilize standardized callouts and acknowledge all Warning and Caution lights while demonstrating cockpit leadership with a sub-standard co-pilot and crew chief.

Prerequisite. SFAM-302.

SFAM-304 4.0 R CACT

Goal. Stage Check.

Requirement. Conduct evaluation of PUI covering all aspects of aircraft operation pertinent to the C-20G.

Performance Standard. Demonstrate competent cockpit leadership and a thorough knowledge of aircraft systems and operational procedures.

Prerequisite. SFAM-303.

FAM-310 2.5 R 1 C-20G

Goal. Review aircraft handling differences between simulator and aircraft for PUI as a Transport Aircraft Commander.

Requirement. Conduct extensive ground operations in order to familiarize PUI with all aspects of C-20G ground handling. Demonstrate proficiency in aircraft operations in the terminal environment.

Performance Standard. Demonstrate competence in both air and ground operations in the aircraft.

Prerequisite. SFAM-304.

Crew Requirements. PUI, API, and CC.

3. Cargo and Passenger Loading

a. Purpose. Introduce and review responsibilities and procedures as a Transport Aircraft Commander while conducting line missions in a variety of situations.

b. General

(1) Events shall be flown as a line mission that includes at least 1 required stop at an airfield other than the PUI's home field in addition to the requirements described in each event.

(2) Every attempt should be made to conduct an over-water passage in conjunction with at least 2 of the events in this phase.

c. Crew Requirements. BPI, PUI, and crew chief.

d. Ground/Academic Training. Complete the CPL stage ground school.

e. Flight Training. (5 Events, 51.0 Hours).

CPL-320 10.0 R 1 C-20G (N)

Goal. Introduce roles and responsibilities of a Transport Aircraft Commander during all phases of a line mission.

Requirement. Perform both pilot flying and pilot not flying duties in conjunction with a line mission while being intimately involved in all decisions pertaining to the mission.

Performance Standard. Be exposed to all aspects during the conduct of a mission and demonstrate competence in all phases.

Prerequisite. CPL-221, CPL-222.

CPL-321 10.0 R 1 C-20G (N)

Goal. Review roles and responsibilities of a Transport Aircraft Commander during all phases of an international line mission.

Requirement. Perform both pilot flying and pilot not flying duties in conjunction with an international line mission while being intimately involved in all decisions pertaining to the mission planning and execution.

Performance Standard. Be exposed to all aspects during the conduct of a mission and demonstrate competence in all phases.

Prerequisite. CPL-320.

CPL-322 10.0 1 C-20G (N)

Goal. Perform responsibilities of a Transport Aircraft Commander during all phases of a line mission to CONUS stations.

Requirement. Perform both pilot flying and pilot not flying duties in conjunction with a line mission to an airfield in CONUS.

Performance Standard. Make all decisions pertaining to the mission using sound judgment and with effective use of crew resources.

Prerequisite. FAM-310.

CPL-323 10.0 1 C-20G (N)

Goal. Perform responsibilities of a Transport Aircraft Commander during all phases of a line mission to a high-density airfield.

Requirement. Discuss peculiarities and considerations of high-density airfield operations. Perform both pilot flying and pilot not flying duties in conjunction with a line mission.

Performance Standard. Make all decisions pertaining to the mission using sound judgment and with effective use of crew resources.

Prerequisite. CPL-322.

CPL-324 11.0 1 C-20G (N)

Goal. Perform responsibilities of a Transport Aircraft Commander during all phases of a line mission through an international FIR and into an international terminal.

Requirement. Discuss peculiarities and considerations of international flight operations. Perform both pilot flying and pilot not flying duties in conjunction with a multi-leg line mission.

Performance Standard. Make all decisions pertaining to the mission using sound judgment and with effective use of crew resources.

Prerequisite. CPL-322.

140. INSTRUCTOR TRAINING PHASE

1. General

a. This phase of training is designed to systematically train the IUT. There are 3 phases of instructors within the scope of this Manual. They are the Advanced Phase IP who trains only those in the Core Advanced Phase, the Basic Phase IP who trains only those in the Core Basic and Core Advanced Phases, and the IP who may instruct all training phases.

b. Every IUT must complete IUT-500 thru IUT-503 in accordance with this phase of training. In addition, the appropriate phase Instructor designation will only follow a completed event observed by the command’s NATOPS IP.

2. Instructor Under Training

a. Purpose. Evaluate and develop skills required to instruct new pilots in appropriate phase events.

b. General

(1) The following general requirements shall be adhered to:

(a) 1000 hours of total fixed-wing pilot time.

(b) 100 hours in model.

(2) The IUT shall be current and proficient in all events.

(3) The IUT shall demonstrate unwavering control over all aspects of aircraft operation.

(4) All events should be accomplished in the CACT approved simulator but may utilize the aircraft as appropriate.

c. Ground/Academic Training. Complete the IUT ground school syllabus and be a designated CRM Facilitator.

d. Flight/Simulator Event Training (4 Events, 12.0 Hours)

IUT-500 3.0 CACT

Goal. Introduce instructional techniques.

Requirement. Conduct an instructional flight where the IP emphasizes instructional techniques through brief and demonstration. Instructor-selected emergencies and procedures to include single-engine operations, flight control malfunctions, approaches, and the landing pattern.

Performance Standard. Demonstrate knowledge of instructional techniques.

IUT-501 3.0 CACT

Goal. Introduce phase-appropriate instructional techniques during the conduct of an actual instructional sortie.

Requirement. Monitor an instructional sortie between an IP and a PUI while occupying the jump seat and performing crew chief duties. Emphasize instructional techniques and SOP adherence. Syllabus used will be in accordance with the event appropriate to the PUI.

Performance Standard. Demonstrate knowledge of instructional techniques.

Crew Requirements. IP, IUT, PUI (any phase).

Prerequisite. IUT-500.

IUT-502 3.0 CACT

Goal. Conduct an instructional sortie.

Requirement. Conduct an instructional event from brief to debrief. The IPUI should demonstrate mastery of systems and procedures and competence in all areas of instruction.

Performance Standard. Conduct a safe and efficient instructional event.

Crew Requirements. IP, IUT, PUI (phase appropriate).

Prerequisite. IUT-501.

IUT-503 3.0 E CACT

Goal. Conduct a phase-appropriate instructional sortie.

Requirement. Conduct an instructional event from brief to debrief. The IPUI should demonstrate mastery of systems and procedures and competence in all areas of instruction.

Performance Standard. Conduct a safe and efficient instructional event.

Crew Requirements. IP, IUT, PUI (phase appropriate).

Prerequisite. IUT-502.

150. REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS PHASE

1. General. These events are to be used for the annual training requirements to include NATOPS and Instrument evaluation flights and official designation check-rides.

2. Requirements, Qualifications, And Designations Phase

a. Purpose. Evaluate and develop skills in accordance with applicable directives.

b. General

(1) Flights flown in this stage are evaluation flights and administrative in nature. Consequently, pursuant to the T&R manual, CRP is not awarded.

(2) All flights should be flown in the CACT-approved simulator but may be accomplished in the aircraft as necessary.

c. Flight/Simulator Event Training. (3 events, 9.0 hours).

RQD-600 3.0 E CACT (N)

Goal. Complete annual NATOPS evaluation.

Requirement. Perform annual NATOPS evaluation per the Operating Manual, OPNAVINST 3710, and all applicable local directives.

Performance Standard. Per Operating Manual and OPNAVINST 3710.

RQD-601 3.0 E CACT (N)

Goal. Conduct annual instrument evaluation.

Requirement. Perform annual Instrument evaluation per OPNAVINST 3710.

Performance Standard. Per OPNAVINST 3710.

RQD-602 3.0 E CACT (N)

Goal. Functional Check Pilot for Maintenance Actions.

Requirement. Perform a Post Maintenance Check Flight profile.

Performance Standard. Operating Manual and all applicable directives.

Prerequisite. DESIG-620.

Crew Requirements. PUI, API, and crew chief.

3. Qualifications

a. Purpose. To enable the VMR Detachment to document completion of qualification events. Qualification codes delineate satisfactory completion of all academic, simulator, and flight requirements for individual flight requirements. Reference the appropriate 200 or 300 level codes.

b. General. Flights flown in this stage do not constitute flight or simulator events in and of themselves, but instead will be logged upon completion of the appropriate 200 or 300 level syllabus per the prerequisites listed below. Subsequent re-flight of sorties requiring the qualification will automatically update these qualification codes. If proficiency is not maintained in at least 1 of the prerequisite codes, then qualification will have to be regained by flying the appropriate R-coded sorties.

c. Ground/Academic Training. Per the appropriate 200, 300, or 400 level syllabus.

d. Flight/Simulator Event Training. None.

QUAL-610 0.0 Tracking

Goal. Complete Transport Third Pilot mission qualification.

Requirement. Satisfactorily demonstrate to an IP the proper Transport Third Pilot procedures and techniques used on a Cargo and Passenger Loading mission.

Performance Standard. Per syllabus description.

Prerequisite. CPL-130.

QUAL-611 0.0 Tracking

Goal. Complete Transport Second Pilot mission qualification.

Requirement. Satisfactorily demonstrate to a Basic Phase Instructor the proper Transport Second Pilot procedures and techniques used on a Cargo and Passenger Loading mission.

Performance Standard. Per syllabus description.

Prerequisite. CPL-220.

QUAL-612 0.0 Tracking

Goal. Complete Transport Aircraft Commander mission qualification.

Requirement. Satisfactorily demonstrate to an Advanced Phase Instructor the proper Transport Aircraft Commander procedures and techniques used on a Cargo and Passenger Loading mission.

Performance Standard. Per syllabus description.

Prerequisite. CPL-321.

4. Designations

a. Purpose. To enable the VMR Detachment to document completion of designation events. Designation codes delineate satisfactory completion of all academic, simulator, and flight requirements for individual flight requirements. Reference the appropriate 200 or 300 level codes.

b. General. Flights flown in this stage do not constitute flight or simulator events in and of themselves, but instead will be logged upon completion of the appropriate 200 or 300 level syllabus per the prerequisites listed below. Subsequent re-flight of sorties requiring the qualification will automatically update these qualification codes. If proficiency is not maintained in at least 1 of the prerequisite codes, then qualification will have to be regained by flying the appropriate R-coded sorties.

c. Ground/Academic Training. Per the appropriate 200, 300, or 400 level syllabus.

d. Flight/Simulator Event Training. None.

DESIG-620 0.0 Tracking

Goal. Transport Aircraft Commander designation.

Requirement. Conduct a mission into and out of a high-volume traffic airfield or through international airspace.

Performance Standard. Demonstrate competence and cockpit leadership.

Prerequisite. SFAM-300 thru FAM-310, CPL-320 thru CPL-321.

Crew Requirements. API, PUI, and CC.

DESIG-621 4.0 Tracking

Goal. Advanced Phase Instructor (API) designation.

Requirement. Brief, debrief, and conduct an instructional flight with a PUI currently in the Core Skill Advanced Phase.

Performance Standard. Provide the level of instruction required to the PUI commensurate with the experience level and per the syllabus description.

Prerequisite. IUT-500 thru IUT-503. At least 1 IP-observed instructional sortie of a PUI during the conduct of a SFAM-200 thru SFAM-204 or SFAM-300 thru SFAM-304, RQD-602, DESIG-620.

Crew Requirements. APIUI, PUI (must be in the Core Skill Advanced or Basic Phase), and an IP.

DESIG-622 0.0 CACT

Goal. Basic Phase Instructor (BPI) designation.

Requirement. Brief, debrief, and conduct an instructional flight with a PUI currently in the Core Skill Basic Phase.

Performance Standard. Provide the level of instruction required to the PUI commensurate with the experience level and per the syllabus description.

Prerequisite. IUT-500 thru IUT-503. At least 1 IP-observed instructional sortie of a PUI during the conduct of an SFAM-200 thru SFAM-204. DESIG-621.

Crew Requirements. BPIUI, PUI (must be in the Core Skill Basic Phase), and an IP.

DESIG-623 0.0 CACT

Goal. IP designation.

Requirement. Brief, debrief, and conduct an instructional flight with a PUI currently in the Core Skill Introduction Phase.

Performance Standard. Provide the level of instruction required for the PUI commensurate with the experience level and per the syllabus description.

Prerequisite. IUT-500 thru IUT-503, DESIG-622.

Crew Requirements. IPUI, PUI (must be in the Core Skill Introduction Phase), and an IP.

AIRCRAFT: C-20G MOS: 7553 CREW POSITION: PILOT

STAGE	TRNG CODE	FLT HRS	REFLY INTERVAL	CRP	R	E	REMARKS
CORE SKILL INTRODUCTION PHASE							
SFAM	100	4.0	*	-			CACT
	101	4.0	*	-			CACT
	102	4.0	*	-			CACT
	103	4.0	*	-			CACT
	104	4.0	*	-	X		CACT
	105	4.0	*	-	X		CACT
	106	4.0	*	-	X		CACT
	107	4.0	*	-			CACT
	108	4.0	*	-			CACT
	109	4.0	*	-			CACT
	110	4.0	*	-			CACT
FAM	111	4.0	*	-	X		C-20G
NFAM	120	2.5	*	-	X		C-20G
CPL	130	10.0	*	-	X		C-20G
	131	10.0	*	-			C-20G
	132	11.0	*	-			C-20G
CORE SKILL BASIC PHASE							
SFAM	200	4.0	*	-			CACT
	201	4.0	*	-			CACT
	202	4.0	365	-	X		CACT
	203	4.0	180	-	X		CACT
	204	4.0	180	-	X		CACT
FAM	210	2.5	60	-	X		C-20G
CPL	220	10.0	60	-	X		C-20G
	221	10.0	90	-			C-20G
	222	11.0	90	-			C-20G
CORE SKILL ADVANCED PHASE							
SFAM	300	4.0	*	-			CACT
	301	4.0	*	-			CACT
	302	4.0	365	-	X		CACT
	303	4.0	180	-	X		CACT
	304	4.0	180	-	X		CACT
FAM	310	2.5	60	-	X		C-20G
CPL	320	10.0	*	-	X		C-20G
	321	10.0	*	-	X		C-20G
	322	10.0	60	-			C-20G
	323	10.0	90	-			C-20G
	324	11.0	90	-	X		C-20G

Figure 1-1.--Event Refly Intervals.

AIRCRAFT: C-20G MOS: 7553 CREW POSITION: PILOT

STAGE	TRNG CODE	FLT HRS	REFLY INTERVAL	CRP	R	E	REMARKS
INSTRUCTOR TRAINING PHASE							
IUT	500	3.0	*	-	-	-	CACT
	501	3.0	*	-	-	-	CACT
	502	3.0	*	-	-	-	CACT
	503	3.0	*	-	-	X	CACT
REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS PHASE							
RQD	600	3.0	365	-	-	X	CACT
	601	3.0	365	-	-	X	CACT
	602	3.0	*	-	-	X	CACT
QUAL	610	0.0	*	-	-	-	TRACK
	611	0.0	*	-	-	-	TRACK
	612	0.0	*	-	-	-	TRACK
DESIG	620	0.0	*	-	-	-	TRACK
	621	0.0	*	-	-	-	TRACK
	622	0.0	*	-	-	-	TRACK
	623	0.0	*	-	-	-	TRACK

Figure 1-1.--Event Refly Intervals, Continued.

EVENT UPDATE CHAINING

STAGE	FLIGHT	SORTIES UPDATED
SFAM	110	610
CPL	130	111, 610
CPL	131	111, 130, 610
CPL	132	111, 130, 610
SFAM	202	104
SFAM	203	104, 105
SFAM	204	104, 105, 106, 610, 611
FAM	210	111, 610, 611
CPL	220	130, 610, 611
CPL	221	130, 131, 220, 610, 611
CPL	222	130, 132, 220, 610, 611
SFAM	302	104, 202
SFAM	303	104, 105, 202, 203
SFAM	304	104, 105, 106, 202, 203, 204
FAM	310	111, 210
CPL	322	130, 220, 610, 611, 612
CPL	323	130, 131, 220, 221, 322, 610, 611, 612, 620
CPL	324	130, 132, 220, 222, 322, 610, 611, 612, 620

Figure 1-2.--Event Update Chaining.

170. SYLLABUS EVENT CONVERSION MATRIX

STAGE	TRAINING CODE NEW	TRAINING CODE OLD	STAGE	TRAINING CODE NEW	TRAINING CODE OLD
SFAM	100	100	SFAM	300	FAM/INST 300
SFAM	101	101	SFAM	301	FAM/INST 301
SFAM	102	102	SFAM	302	FAM/INST 302
SFAM	103	103	SFAM	303	FAM/INST 303
SFAM	104	104	SFAM	304	CK 310
SFAM	105	105	FAM	310	FAM/INST 303
SFAM	106	106	CPL	320	NAV 400
SFAM	107	105	CPL	321	NAV 400
SFAM	108	105	CPL	322	NAV 400
SFAM	109	105	CPL	323	NAV 400
SFAM	110	106	CPL	324	NAV CK 410
FAM	111	100	IUT	500	IUT 500
NFAM	120	110	IUT	501	IUT 501
CPL	130	FAM/INST 120	IUT	502	IUT 502
CPL	131	FAM/INST 120	IUT	503	IUT 503
CPL	132	FAM/INST 120	RQD	600	RQD 600
SFAM	200	FAM/INST 200	RQD	601	RQD 601
SFAM	201	FAM/INST 201	RQD	602	FCF 304
SFAM	202	FAM/INST 202	QUAL	610	CK 130
SFAM	203	FAM/INST 203	QUAL	611	CK 210
SFAM	204	CK 210	QUAL	612	CK 310
FAM	210	FAM/INST 203	DESIG	620	CK 310
CPL	220	FAM/INST 203	DESIG	621	IUT 504
CPL	221	FAM/INST 203	DESIG	622	IUT 504
CPL	222	FAM/INST 203	DESIG	623	IUT 504

C-20 TRAINING AND READINESS (T&R) MANUAL

CHAPTER 2

C-20G CREW CHIEF

FIGURES

*** * N O T E * ***

Crew Resource Management will be briefed for all flights and aircrew positions.

CHAPTER 2

C-20G CREW CHIEF

200. C-20G CORE COMPETENCY

1. Mission. See chapter 1.

2. Mission Essential Task List. See chapter 1.

3. Table of Organization. See chapter 1.

4. Core Capability Statement. See chapter 1.

5. METL/Core Skill Matrix

	FAM	NAV	AW	FCF
a. Conduct Airlift in the JOA.	X	X	X	
b. Provide support to DOD and other Government Agencies.	X	X	X	X

6. Qualifications and Designations Tables. The tables below delineate T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All required ground training will be completed prior to completion of the final events. Qualification letters signed by the commanding officer shall be placed in individual NATOPS and APR jackets. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R coded syllabus events associated with that qualification.

Qualification (Tracking Code)	Initial Qualification Requirements
NATOPS (600E)	IAW OPNAV 3710.7 and an annual qualification letter signed by the commanding officer.
Designation (Tracking Code)	Designation Requirements
CC Mission (601)	Completion of the Familiarization phase of the Core Skills Introduction Phase indicated by successful completion of 180E(R). Designation letter signed by the commanding officer.

201. PROGRAM OF INSTRUCTION (POI) FOR BASIC, TRANSITION, AND CONVERSION CREW CHIEF. A crew chief under instruction must pass a flight physical.

WEEKS	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3-6	Maintenance Initial Course	CACT
7-20	Core Skill Introduction Phase	VMR Det
21-25	Core Skill Basic Phase	VMR Det
26-52	Core Skill Advanced Phase	VMR Det

202. PROGRAM OF INSTRUCTION FOR REFRESHER CREW CHIEF. In order to qualify for this POI, the CCUI must have at least 750 hours in model or be reasonably qualified in aviation maintenance generally and C-20G specifically. The commanding officer has final approval authority on who may participate in this POI.

WEEKS	COURSE/PHASE	ACTIVITY
1-2	Check-In	VMR Det
3	Maintenance Refresher Course	CACT
4-12	Core Skill Introduction Phase	VMR Det
13-16	Core Skill Basic Phase	VMR Det
17-20	Core Skill Advanced Phase	VMR Det

203. PROGRAM OF INSTRUCTION FOR CREW CHIEF INSTRUCTOR

WEEKS	COURSE/PHASE	ACTIVITY
1-3	Instructor Under Training	VMR Det

210. SQUADRON LEVEL TRAINING. Ground training requirements are listed separately for each phase.

220. FLIGHT/SIMULATOR/GROUND EVENT TRAINING FOR BASIC, TRANSITION, AND CONVERSION CREW CHIEF

1. Core Skill Introduction Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Familiarization	18/30	45.5/81.5
NATOPS	1/0	3.0/0.0
TOTAL FOR PHASE	**19/30**	**48.5/81.5**
COMBINED TOTALS	**49**	**130.0**
ACCUMULATION FOR BASIC POI	**49**	**130.0**

2. Core Skill Basic Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Navigation	4/0	49.0/0.0
Cargo and Passenger Loading	3/0	45.0/0.0
TOTAL FOR PHASE	**7/0**	**94.0/0.0**
COMBINED TOTALS	**7**	**94.0**
ACCUMULATION FOR BASIC POI	**56**	**224.0**

3. Core Skill Advanced Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Functional Check Flight	2/0	6.5/0.0
Adverse Weather	2/0	6.0/0.0
TOTAL FOR PHASE	**4/0**	**12.5/0.0**
COMBINED TOTALS	**4**	**12.0**
ACCUMULATION FOR BASIC POI	**60**	**236.0**

221. FLIGHT/SIMULATOR/GROUND EVENT TRAINING FOR REFRESHER CREW CHIEF

1. Core Skill Introduction Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Familiarization	15/6	38.0/13.5
NATOPS	1/0	3.0/0.0
TOTAL FOR PHASE	**16/6**	**41.0/13.5**
COMBINED TOTALS	**22**	**54.5**
ACCUMULATION FOR BASIC POI	**22**	**54.5**

2. Core Skill Basic Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Navigation	4/0	49.0/0.0
Cargo and Passenger Loading	3/0	45.0/0.0
TOTAL FOR PHASE	**7/0**	**94.0/0.0**
COMBINED TOTALS	**7**	**94.0**
ACCUMULATION FOR BASIC POI	**29**	**148.5**

3. Core Skill Advanced Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Functional Check Flight	2/0	6.5/0.0
Adverse Weather	2/0	6.0/0.0
TOTAL FOR PHASE	**4/0**	**12.5/0.0**
COMBINED TOTALS	**4**	**12.0**
ACCUMULATION FOR BASIC POI	**33**	**160.5**

222. FLIGHT/SIMULATOR/GROUND EVENT TRAINING FOR CREW CHIEF INSTRUCTOR

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Instructor Under Training	3/0	9.0/0.0
TOTAL FOR PHASE	**3/0**	**9.0/0.0**
COMBINED TOTALS	**3**	**9.0**
ACCUMULATION FOR BASIC POI	**3**	**9.0**

230. FLIGHT/SIMULATOR/GROUND EVENT PERFORMANCE REQUIREMENTS

1. General. See paragraph 130.

2. Crew Resource Management (CRM). Aircrews shall include CRM as an integral part of every brief.

231. CORE SKILL INTRODUCTION PHASE

1. Familiarization

a. Purpose. To familiarize the CCUI with all aspects of C-20G systems and operations and designate a C-20G Crew Chief upon successful completion.

b. General

(1) The events of this stage are delineated as GFAM and FAM. GFAM may or may not be conducted in conjunction with a flight event but all FAM events must be flight events.

(2) This stage is designed to ensure a high level of knowledge is attained through study and instruction while utilizing the aircraft as a training aid. In order to be successful, the CCUI must arrive at each event with an in-depth working knowledge of the systems and procedures covered by the event. If the CCUI does not have a satisfactory level of knowledge at the commencement of the event, the event shall be terminated and appropriate action taken.

(3) The oral exam administered as part of GFAM-124 is considered to be just as important as a check-ride. If the CCUI does not demonstrate mastery of the academic knowledge inherent to GFAM-124, further progression is not allowed until remedied.

(4) FAM-140 thru FAM-142 may be conducted in a CACT-approved simulator provided the CC is proficient in FAM-150.

c. Crew Requirements. Unless otherwise specified, all events in this stage require a qualified crew chief to supervise and instruct the CCUI. Due to the dynamic nature of operations and importance of the material, the Crew Chief Instructor (CCI) shall remain intimately involved with the instruction periods to ensure the accuracy and standardization of material taught. In the case of GFAM, only the CC and CCUI are required. If engine turns are needed, a pilot must be present during the event. For the CCUI's first event in the aircraft, a CCI shall conduct the full event, ensuring an in-depth familiarization is received.

d. Ground/Academic Training. This stage relies heavily on ground instruction due to the academics required of C-20G crew chiefs. As a result, many events require the aircraft as a training aid only and may or may not be conducted in conjunction without an actual flight event. If labeled FAM, the training event must be in conjunction with a flight.

e. Flight Training. (49 Events, 130.0 Hours).

GFAM-100 3.0 C-20G

Goal. Introduce the CCUI to the C-20G aircraft.

Requirement. Conduct a general aircraft familiarization discussion to include the main cabin area, cockpit, tail, galley, lavatory, baggage compartments and wheel wells. Introduce aircraft hazard areas, emergency equipment location, and Aircraft Discrepancy Book (ADB).

Performance Standard. Have a working knowledge of general C-20G systems and procedures.

GFAM-101 2.5 C-20G

Goal. Introduce Auxiliary Power Unit (APU) operation.

Requirement. Introduce general APU operation. Review normal and abnormal procedures IAW applicable directives. Introduce APU oil system servicing.

Performance Standard. Demonstrate thorough knowledge of the APU.

GFAM-102 3.O C-20G

Goal. Introduce the AC electrical system.

Requirement. AC Electrical System Operation, AC EPMP operation and associated AC indications. Introduce all normal and abnormal AC operations IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of AC electrical system.

Prerequisite. GFAM-101.

GFAM-103 3.O C-20G

Goal. Introduce the DC electrical system.

Requirement. DC Electrical System Operation, DC EPMP operation and associated DC indications. Introduce all normal and abnormal DC operations IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of DC electrical system.

Prerequisite. GFAM-101.

GFAM-104 2.5 C-20G

Goal. Introduce the emergency electrical system.

Requirement. Introduce emergency electrical system operation and associated indications. Introduce all normal and abnormal emergency electrical system operations IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the emergency electrical system.

GFAM-105 3.O C-20G

Goal. Review the C-20G electrical system.

Requirement. Review electrical System Operation, A/C Power System, D/C Power System, emergency power, EPMP operation and associated indications. Review all normal and abnormal emergency electrical system operations IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the C-20G electrical system.

Prerequisite. GFAM-102, GFAM-103, GFAM-104.

GFAM-106 3.0 C-20G

Goal. Introduce the Flight and Auxiliary hydraulic system.

Requirement. Introduce Flight and Auxiliary Hydraulic System general operation. Introduce all Flight and Auxiliary hydraulic systems indications and all normal and abnormal

procedures IAW applicable directives. Introduce Flight and Auxiliary Hydraulic servicing.

Performance Standard. Demonstrate thorough knowledge of the flight and auxiliary hydraulic systems.

FAM-107 3.0 C-20G

Goal. Introduce the Combined and Utility hydraulic system.

Requirement. Introduce Combined and Utility Hydraulic System general operation. Introduce all Combined and Utility hydraulic systems indications and all normal and abnormal procedures IAW applicable directives. Introduce Combined and Utility Hydraulic servicing.

Performance Standard. Demonstrate thorough knowledge of the combined and utility hydraulic systems.

GFAM-108 3.0 C-20G

Goal. Review the hydraulic system.

Requirement. Review the C-20G Hydraulic system, operation, indications, and all normal and abnormal procedures.

Performance Standard. Demonstrate thorough knowledge of the C-20G hydraulic system.

Prerequisite. GFAM-106, GFAM-107.

GFAM-109 2.5 C-20G

Goal. Introduce the flight control system.

Requirement. Introduce Flight Control general operation to include elevators, ailerons, spoilers, rudder, flaps, horizontal stabilizer, stall warning/protection system, automatic flight guidance system, and wings. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the flight control system.

Prerequisite. GFAM-108.

GFAM-110 3.0 C-20G

Goal. Introduce the landing gear system.

Requirement. Introduce landing gear general operation to include NWS System, brake system, tire and strut servicing and aircraft towing considerations. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the landing gear system.

Prerequisite. GFAM-108.

GFAM-111 3.0 C-20G

Goal. Introduce the fuel system.

Requirement. Introduce fuel System general operation to include fuel lines, fuel tanks, fuel quantity indicating system, and fuel

servicing procedures and considerations. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the fuel system.

GFAM-112 2.5 C-20G

Goal. Introduce the potable water and waste disposal systems.

Requirement. Introduce potable water system general operation to include potable water filling, water testing procedures, wastewater disposal and servicing, and cold weather considerations. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the water and waste disposal systems.

GFAM-113 3.0 C-20G

Goal. Introduce the pneumatic system.

Requirement. Introduce pneumatic system general operation to include bleed air components and supplied systems, indications, and all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of pneumatic system.

GFAM-114 3.0 C-20G

Goal. Introduce the anti-ice and pitot-static system.

Requirement. Introduce anti-ice and pitot-static systems general operation to include ice and rain protection, wing anti-ice system, cowl anti-ice system, windscreen-heating system, and the pitot-static system. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of anti-ice and pitot-static system.

Prerequisite. GFAM-113.

GFAM-115 3.0 C-20G

Goal. Introduce the air conditioning system.

Requirement. Introduce the air conditioning system general operation to include the refrigeration system, avionics equipment cooling, and indications. Review all normal and abnormal procedures applicable directives.

Performance Standard. Demonstrate thorough knowledge of air conditioning system.

Prerequisite. GFAM-113.

GFAM-116 3.0 C-20G

Goal. Introduce the pressurization system and oxygen system.

Requirement. Introduce cabin pressurization system general operation to include outflow valve, normal and abnormal relief systems, and controls and indications. Introduce oxygen system general operation to include controls and indications, system component location, and component servicing. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the aircraft pressurization and oxygen systems.

Prerequisite. GFAM-113.

GFAM-117 2.5 C-20G

Goal. Introduce the Tay 611-8 Engine compressor and turbine sections.

Requirement. Introduce basic jet engine components and operations specific to the C-20G engine to include compressor section components, turbine section components, bypass and non-bypass air, engine airflow control, manual start valve operation, and engine ignition systems. Discuss how the powerplant fits in to the overall C-20G system. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of powerplant’s basic operation.

GFAM-118 3.0 C-20G

Goal. Introduce the Tay 611-8 Engine fuel system.

Requirement. Introduce engine fuel system general operation to include high-pressure boost pumps, filters, suction feeding, and combustion chamber nozzles. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of engine fuel system.

Prerequisite. GFAM-111.

GFAM-119 3.0 C-20G

Goal. Introduce the Tay 611-8 Engine oil system.

Requirement. Introduce engine oil system general operation to include tanks, lines, lubricating locations, heat transfer components, and engine oil system servicing. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of engine oil system.

GFAM-120 3.0 C-20G

Goal. Review the Tay 611-8 Engine.

Requirement. Review all aspects of the C-20G powerplant

Performance Standard. Demonstrate thorough knowledge of the C-20G powerplant and all affected systems.

Prerequisite. GFAM-117, GFAM-118, GFAM-119.

GFAM-121 2.5 C-20G

Goal. Introduce the fire detection and extinguishing system.

Requirement. Introduce the APU and engine fire systems general operation to include fire sensing, controls and indication, smoke and flame systems, and extinguishing systems. Introduce the master warning and caution system indications and operation. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of fire detection and extinguishing systems.

GFAM-122 2.5 C-20G

Goal. Introduce the Flight Management System (FMS).

Requirement. Introduce FMS general operation to include initialization and flight summary. Introduce instruments, navigation system, communication systems, and the autopilot and auto throttle systems. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the FMS and related systems.

GFAM-123 2.5 C-20G N

Goal. Introduce aircraft lighting systems, galley operations, door and stairway operations, and loadmaster duties.

Requirement. Introduce the general operation of the normal and emergency lighting, galley, airstair, and the cargo and baggage doors. Introduce loadmaster duties to include Form F and cargo and passenger loading.

Performance Standard. Demonstrate thorough knowledge of applied systems and be able to assist with loadmaster duties.

GFAM-124 3.5 R C-20G

Goal. Progress check.

Requirement. Demonstrate knowledge of all C-20G aircraft systems and procedures.

Performance Standard. Satisfactorily demonstrate aircraft systems and procedural knowledge during the course of an oral examination.

Prerequisite. NATOPS open and closed book exams in addition to all events in the stage.

GFAM-130 2.0 R C-20G

Goal. Certify CCUI as a tow tractor operator.

Requirement. Attend appropriate GSE courses.

Performance Standard. Demonstrate detailed knowledge of the landing gear system as it pertains to all tow tractor operations.

External Syllabus Support. Tow tractor.

GFAM-131 2.0 R C-20G

Goal. Certify CCUI in ground servicing procedure associated with the aircraft oxygen system.

Requirement. Attend appropriate GSE courses.

Performance Requirements. Demonstrate detailed knowledge of air conditioning system as it pertains to the external oxygen-servicing cart.

External Syllabus Support. Gaseous oxygen servicing cart.

GFAM-132 2.0 R C-20G

Goal. Certify CCUI in ground servicing procedures associated with aircraft systems requiring nitrogen servicing.

Requirement. Attend appropriate GSE courses.

Performance Standard. Demonstrate detailed knowledge of the landing gear and hydraulic systems as they pertain to the external nitrogen-servicing cart.

External Syllabus Support. Nitrogen servicing cart.

GFAM-133 2.0 R C-20G

Goal. Certify CCUI in operation of external AC and DC power units.

Requirement. Attend appropriate GSE courses.

Performance Standard. Demonstrate detailed knowledge of electrical system as it pertains to the external power cart.

External Syllabus Support. External AC and DC Power Unit.

GFAM-134 2.0 R C-20G

Goal. Certify CCUI in operation of external air cart.

Requirement. Attend appropriate GSE courses.

Performance Standard. Demonstrate proficiency in use of the external air cart.

External Syllabus Support. External air cart.

FAM-140 2.5 C-20G

Goal. Introduce C-20G crew chief duties.

Requirement. Introduce the duties of a C-20G crew chief to include aircrew brief and debrief, all pre- and post-flight inspections, cockpit setup, checklists, flight operations, and ADB. Instructor-selected ground emergencies.

Performance Standard. Demonstrate in-depth knowledge of aircraft systems and the aeronautical capacity to learn cockpit operations.

Prerequisite. GFAM-124, GFAM-130, GFAM-131, GFAM-132, GFAM-133, GFAM-134.

FAM-141 2.5 C-20G

Goal. Review C-20G crew chief duties.

Requirements. Review the duties of a C-20G crew chief to include aircrew brief and debrief, all pre- and post-flight inspections, cockpit setup, checklists, flight operations, and ADB. Discuss hot weather considerations. Instructor-selected air and ground emergencies.

Performance Standard. Demonstrate in-depth knowledge of aircraft systems and the aeronautical capacity to learn cockpit operations.

Prerequisite. FAM-140.

FAM-142 2.5 C-20G

Goal. Review C-20G crew chief duties.

Requirements. Review the duties of a C-20G crew chief to include aircrew brief and debrief, all pre- and post-flight inspections, cockpit setup, checklists, flight operations, and ADB. Discuss cold weather considerations. Instructor-selected air and ground emergencies.

Performance Standard. Demonstrate in-depth knowledge of aircraft systems and the aeronautical capacity to learn cockpit operations.

Prerequisite. FAM-141.

FAM-150 2.5 R C-20G

Goal. Introduce the CCUI to the C-20G jump seat duties.

Requirement. Review aircrew brief and debrief and other crew chief specific duties. Review operations with emphasis on checklist procedures of both a normal and emergency nature to include the location and use of survival equipment, CAS and annunciator indications, emergency exits, and oxygen use. Review selected takeoff and landing emergencies. Instructor-selected in-flight malfunctions to include air and ground APU malfunctions.

Performance Standard. Provide CCUI an appreciation for basic pilot responsibilities and increase CCUI confidence while acting as a third cockpit crewmember.

Prerequisite. FAM-142.

FAM-151 2.5 C-20G

Goal. Review APU operation and introduce its practical application.

Requirement. Review all normal and abnormal APU procedures to include APU Fire, APU Alternator Failure, APU ALT BRG FAIL, APU ALT HOT, APU MASTER WARNING, APU EXCEEDENCE, APU In-Flight Operation (Alternate Electrical Source), Electrical Load Warning System, E-BATT DISCH, E-BATT FAIL, and APU Oil System servicing. Discuss cold weather operations, crosswind landings, aircraft range and endurance performance, survival equipment use, cargo

door operation, and the Minimum Equipment List (MEL). Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of APU operation.

Prerequisite. GFAM-101, FAM-150.

FAM-152 2.5 R C-20G

Goal. Review the electrical system and introduce its practical application.

Requirement. Review all normal and abnormal electrical system procedures to include EPMP operation and associated indications, battery integrity checks, alternator and converter failure (dual and single), APU in-flight operation (ELWS), L-R/APU Failed BRG, L-R/APU ALT HOT, L-R Converter HOT/FAN FAIL, TRU HOT/FAIL, L-R AC/DC Power Fail, Essential AC/DC BUS FAULT, Battery only operation/SEP operation, BATT 1-2 Charger Fail, and EPMP Power Fail. Review crew chief jump seat duties and MEL. Instructor-selected limitations and emergencies. Introduce concepts of Cockpit Resource Management (CRM): Adaptability and flexibility.

Performance Standard. Demonstrate thorough knowledge in all aspects of the electrical system.

Prerequisite. GFAM-105, FAM-150, FAM-151.

FAM-153 2.5 R C-20G

Goal. Review the hydraulic system and introduce its practical applications.

Requirement. Review all normal and abnormal hydraulic system procedures and operation to include engine driven hydraulic pumps, auxiliary and utility pumps, normal and abnormal start indications, COMB HYD FAIL message, FLT HYD FAIL message, Dual Hydraulic system Failure, FLT/COMB HYD FLUID HOT message, partial flap landing, T/R unlock or deploy in-flight, yaw damper failure, and cargo door operation. Review crew chief jump seat duties and the MEL. Instructor-selected limitations and emergencies. Introduce concepts of CRM: Leadership.

Performance Standard. Demonstrate thorough knowledge in all aspects of the hydraulic system.

Prerequisite. GFAM-108, FAM-150.

FAM-154 2.5 R C-20G

Goal. Review the flight control system and introduce its practical application.

Requirement. Review all normal and abnormal flight control procedures and operation to include rudder limiting messages, flap and stabilizer operation, flight control runaway to hard over position, immovable flight controls, manual flight controls, stall barrier malfunction, ground spoiler failure, runaway electrical elevator trim, MACH trim compensation failure, failure of Stabilizer/Flap interconnect, wing flap alternate operation, undesired flap movement, and ACFT CONFIG Message. Review crew

chief jump seat duties and the MEL. Instructor-selected limitations and emergencies. Introduce concepts of Cockpit CRM: Decision Making.

Performance Standard. Demonstrate thorough knowledge in all aspects of flight controls.

Prerequisite. GFAM-109, FAM-150, FAM-153.

FAM-155 2.5 R C-20G

Goal. Review the landing gear system and introduce its practical application.

Requirement. Review all normal and abnormal landing gear procedures and operation to include brakes and antiskid operation, NWS system operation and failures, nutcracker system operation and failures, anti-skid fail message, BRAKE FAIL message, Anti-skid-off braking, hot brakes, BRAKE PEDAL message, multiple brake fail messages, alternate braking, landing gear failures, alternate gear extension, partial gear landing, tire failure, nose gear shimmy. Review crew chief jump seat duties, the MEL, and aircraft towing procedures. Instructor-selected limitations and emergencies. Introduce concepts of Cockpit CRM: Assertiveness.

Performance Standard. Demonstrate thorough knowledge in all aspects of the landing gear systems.

Prerequisite. GFAM-110, GFAM-132, FAM-150, FAM-153.

FAM-156 2.5 R C-20G

Goal. Review the fuel system and introduce its practical application.

Requirement. Review all normal and abnormal fuel system procedures and operation to include balancing procedures, boost pump failures, fuel level low message, fuel pressure low messages, filter messages, minimum fuel procedures, suction feeding, system servicing (pressure, gravity, and de-fueling). Review crew chief jump seat duties and the MEL. Instructor selected limitations and emergencies. Introduce concepts of CRM: Adaptability and Flexibility.

Performance Standard. Demonstrate thorough knowledge in all aspects of the fuel system.

Prerequisite. GFAM-111, FAM-150.

FAM-157 2.5 R C-20G

Goal. Review the potable water and waste disposal systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operations as they pertain to the potable water and waste disposal systems to include water-testing procedures and system servicing. Review cold weather servicing procedures, crew chief jump seat duties, and the MEL. Instructor-selected limitations and emergencies. Introduce concepts of CRM: Mission Analysis.

Performance Standard. Demonstrate thorough knowledge in all aspects of the potable water and waste disposal systems.

Prerequisite. GFAM-112, FAM-150.

FAM-158 2.5 R C-20G

Goal. Review the aircraft pneumatic, anti-ice, and pitot-static systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operation of the pneumatic, wing and cowl anti-ice, and pitot-static systems to include PYLON HOT message, AFT EQUIP HOT message, bleed air hot messages, bleed air high pressure messages, wing hot messages, wing temp low messages, cowl anti-ice overheat messages, cowl low pressure messages, pitot heat fail message, standby pitot heat fail message, TAT/SAT probe heat failure, windshield heat failure, and windshield crack/failure. Review crew chief jump seat duties and the MEL. Introduce concepts of CRM: Situational Awareness.

Performance Standard. Demonstrate thorough knowledge in all aspects of the pneumatic, anti-ice, and pitot-static systems.

Prerequisite. GFAM-113, GFAM-114, FAM-150.

FAM-159 2.5 R C-20G

Goal. Review the air conditioning and pressurization systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operation of the air conditioning and pressurization systems to include rapid decompression, emergency descent, loss of automatic pressurization control, pressurization system rate limiting, cabin differential 9.6/9.8 message, cabin pressure low message, cooling turbine hot message, air conditioning smoke, smoke and fume evacuation, display unit hot messages, display unit fan fail messages, symbol generator hot messages, IRS fan fail messages, AHRS cool fail message. Review crew chief jump seat duties, oxygen system operation and duration charts, portable oxygen use, oxygen system servicing, CRM, and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of the air conditioning and pressurization systems.

Prerequisite. GFAM-115, GFAM-116, FAM-150, FAM-158.

FAM-160 2.5 R C-20G

Goal. Review the Tay 611-8 powerplant and related systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operation of the C-20G powerplant and its related systems to include start malfunctions, start-valve malfunctions, engine failures (single and dual), single and dual engine out considerations through all phases of flight, air start (immediate and normal), engine vibration on the ground, engine synchronizer, approach idle system, oil pressure low messages, oil filter bypass messages, and engine oil servicing (normal and emergency).

Review crew chief jump seat duties, CRM, and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of the powerplant and related systems.

Prerequisite. FAM-120, FAM-150.

FAM-161 2.5 R C-20G

Goal. Review the APU and engine fire warning and extinguishing systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operation of the APU and engine fire warning and extinguishing systems to include an APU fire test, engine fire and fault test, APU fire, engine fire, severe vibration or separation, engine hot messages, pylon hot messages, engine warning system malfunction, fire detection system fault, smoke and flame detect message, inside fire, smoke and fume evacuation, Aft lavatory smoke annunciator, fire extinguishing systems (engine, APU, portable). Review crew chief jump seat duties, CRM, aircraft performance (takeoff and climb), and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of the APU and engine fire warning and extinguishing systems.

Prerequisite. FAM-121, FAM-150, FAM-160.

FAM-162 2.5 R C-20G

Goal. Review the FMS and related FGC systems and introduce their practical application.

Requirement. Review the FMS and related FGC systems operation and procedures that pertain to the crew chief jump seat duties to include FMS initialization, flight summary, PERF INIT, TO INIT, TO DATA, LAND DATA, single-engine data, EGPWS modes and callouts, display Switching and symbol generator control check. Review normal and abnormal procedures to include autopilot malfunction, auto-throttle malfunction, display system failure, AFGCS failure, DAU CAS messages, FGC CAS messages, IRS/NAV CAS messages, in-flight communications failure and degradation, anti-hijacking procedures, over-water procedures. Review crew chief jump seat duties, aircraft performance (descent, landing), hot weather operations, foul weather considerations (wind-shear, turbulence, microburst, volcanic ash), CRM, and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of the FMS and related FGC systems.

Prerequisite. FAM-122, FAM-150.

FAM-163 2.5 R C-20G N

Goal. Review aircraft lighting, galley operations, door and stairway operations, loadmaster duties and introduce their practical application.

Requirement. Review operation and procedures for the aircraft light system (normal and emergency), galley, loadmaster duties and responsibilities, doors and stairway. Review crew chief jump seat duties, CRM, and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of lighting, galley, and door systems.

Prerequisite. FAM-123, FAM-150.

FAM-170 3.0 R C-20G

Goal. Stage Check.

Requirement. Evaluate CCUI on systems knowledge and ground and flight performance on a local area trainer.

Performance Standard. Demonstrate extensive systems and procedural knowledge of the C-20G aircraft.

Prerequisite. Satisfactory completion of all events in the familiarization stage.

2. NATOPS/Crew Chief Evaluation

a. Purpose. Conduct a Core Skill Introduction evaluation.

b. General. A designated NATOPS Crew Chief Instructor will observe and certify that the CCUI is NATOPS qualified per the applicable directives. Satisfactory completion of the NATOPS ground evaluation is a prerequisite for the NATOPS flight evaluation.

c. Crew Requirements. TAC, CP, CCUI, CCI, LM.

d. Ground/Academic Training. CCUI shall complete NATOPS open/closed book tests prior to flight.

e. Flight/Simulator Training. (1 Event, 3.0 Hours)

CK-180 3.0 R E C-20G

Goal. Evaluate crew chief knowledge of aircraft systems and normal and abnormal emergency procedures.

Requirement. Perform all duties as crew chief on the C-20G during a line mission. The mission must include an overnight visit to a field other than the home field. Perform all procedures IAW NATOPS procedures to include all Operating Manuals and Standard Operating Procedures. Instructor-selected emergencies.

Performance Standard. PUI shall perform all duties and procedures IAW applicable directives.

Prerequisite. FAM-170.

232. CORE SKILL BASIC PHASE

1. Purpose. This phase is designed to expose the new crew chief to more complex mission situations to allow his continued development.

2. General. All events in this phase shall be conducted in conjunction with line missions unless otherwise specified in the individual event descriptions. No CCI is required and the Aircraft Commander is responsible for the CCUI's training and evaluation.

3. Navigation

a. Purpose. Expose the crew chief to different environments and the peculiarities that are inherent to each.

b. General. Attention should be paid to efficient cockpit crew coordination in the different flight environments. This is especially true during the terminal phases of flight in both high-volume traffic and international airspace.

c. Crew Requirements. TAC, CP, CC, LM.

d. Flight Training. (4 Events, 49.0 Hours)

NAV-200 10.0 R C-20G

Goal. Conduct a multi-leg over-water flight without a RON.

Requirements. Conduct a single-day mission concentrating on the peculiarities associated with short missions involving extended crew days. Perform all standard crew chief duties that should include turnaround procedures, interaction with ground support agencies, cargo loading, pre- and post-flight procedures, and NAVFLIR/VIDSMAF paperwork. Review cockpit interaction utilizing all aspects of CRM.

Performance Standard. Perform standard crew chief duties in a line mission environment.

Prerequisite. FAM-150.

NAV-201 12.0 R C-20G

Goal. Conduct a CONUS line mission including a RON.

Requirements. Conduct a multi-day mission concentrating on the peculiarities associated with extended missions to CONUS. Perform all standard crew chief duties that should include turnaround procedures, interaction with ground support agencies, cargo loading, pre- and post-flight procedures, and NAVFLIR/VIDSMAF paperwork. Review cockpit interaction utilizing all aspects of CRM.

Performance Standard. Perform standard crew chief duties during a CONUS line mission.

Prerequisite. NAV-200.

NAV-202 12.0 R C-20G

Goal. Conduct a CONUS line mission including a RON to a high-volume traffic airfield.

Requirements. Conduct a multi-day mission concentrating on the peculiarities associated with high-volume traffic airfields in CONUS. Perform all standard crew chief duties that should include turnaround procedures, interaction with ground support agencies, cargo loading, pre- and post-flight procedures, and NAVFLIR/VIDSMAF paperwork. Review cockpit interaction utilizing all aspects of CRM.

Performance Standard. Perform standard crew chief duties during a CONUS line mission to high-volume traffic airfield.

Prerequisite. NAV-200.

NAV-203 15.0 R C-20G

Goal. Introduce an International line mission including a RON.

Requirements. Conduct a multi-day mission concentrating on the peculiarities associated with extended missions in the international arena. Perform all standard crew chief duties that should include turnaround procedures, interaction with ground support agencies, cargo loading, pre- and post-flight procedures, and NAVFLIR/VIDSMAF paperwork. Review international ground and flight procedures.

Performance Standard. Perform standard crew chief duties during an international line mission.

Prerequisite. NAV-200.

4. Cargo and Passenger Loading

a. Purpose. Familiarize the crew chief with all aspects of cargo and passenger loading on the C-20G aircraft and how it affects the mission.

b. General. All events shall be conducted in conjunction with a line mission.

c. Crew Requirements. TAC, CP, CC, LMI.

d. Ground/Academic Training. Complete Cargo and Passenger Loading brief given by loadmaster instructor.

e. Flight Training. (3 Events, 45 Hours)

CPL-210 15.0 R C-20G

Goal. Introduce 2 or 3 pallet cargo loading configuration.

Requirement. Perform all standard crew chief duties. Introduce different rig configurations.

Performance Standard. Conduct a line mission where cargo is carried while in a 2 or 3 pallet configuration.

Prerequisite. FAM-150.

CPL-211 15.0 R C-20G

Goal. Introduce passenger loading.

Requirement. Perform all standard crew chief duties. Introduce procedures for both duty and space available passengers.

Performance Standard. Conduct a line mission where either duty or space available passengers are carried.

Prerequisite. FAM-150.

CPL-212 15.0 R C-20G

Goal. Conduct a VIP lift.

Requirement. Perform all standard crew chief duties. Introduce aircraft preparation for VIP lift. Introduce SATCOM system setup and operation. Introduce protocol for carriage of VIP passengers.

Performance Standard. Conduct a line mission where either VIP-level duty or space available passengers are carried.

Prerequisite. CPL-211.

233. CORE SKILL ADVANCED PHASE

1. Purpose. Expose crew chief to more advanced aircraft operations.

2. General. Should be conducted in conjunction with line missions wherever possible in order to increase training value.

3. Functional Check Flight

a. Purpose. Qualify as functional check flight crew chief.

b. General

(1) Events in this stage should be conducted in conjunction with actual post-maintenance flights but simulated post-maintenance flights are acceptable as operations dictate.

(2) A Crew Chief Instructor is required to introduce all FCF specific ground checks with the CCUI. An FCF qualified pilot is required to introduce all airborne checks.

c. Crew Requirements. FCFP, CP, CCI, CCUI.

d. Flight Training. (2 Events, 6.5 Hours).

FCF-300 3.0 C-20G

Goal. Introduce Functional Check Flight ground and air procedures.

Requirements. Introduce all FCF-specific pre- and post-flight inspections, cockpit setup, FCF-aircrew brief and debrief from maintenance personnel, FCF procedures manual, and card differences.

Performance Standard. Demonstrate knowledge of all FCF procedures.

FCF-301 3.5 R E C-20G

Goal. Conduct post maintenance A-Card check flight.

Requirement. Introduce all FCF-specific pre- and post-flight inspections, cockpit setup, FCF-aircrew brief and debrief from maintenance personnel, FCF procedures manual, and conduct full A-card post-maintenance profile.

Performance Standard. Demonstrate knowledge of all FCF procedures.

4. Adverse Weather

a. Purpose. Expose crew chief to adverse weather operations and the specific considerations needed for safe operation in extreme environments.

b. General. Events in this stage should be in conjunction with line missions and involve at least 1 stop at an airfield that can be reasonably considered to be under the influence of adverse weather.

c. Crew Requirement. TAC, CP, CCUI, LM.

d. Ground/Academic Training. Must be current in annual C-20G specific adverse weather ground training.

e. Flight Training. (2 Events, 6 Hours).

AW-310 3.0 E R C-20G

Goal. Introduce crew chief to cold weather operations.

Requirements. Introduce and review all cold weather operations outlined and discussed in all applicable directives to include start-up considerations, de-icing, anti-icing, aircraft configuration, and shut-down and securing considerations.

Performance Standard. Demonstrate knowledge and practical application of all cold weather procedures.

Prerequisite. RQD-601.

AW-311 3.0 E R C-20G

Goal. Introduce crew chief to desert operations.

Requirement. Introduce and review all hot weather operations outlined and discussed in all applicable directives to include start-up considerations, blowing sand, aircraft configuration, shut-down and securing considerations.

Performance Standard. Demonstrate knowledge and practical application of all desert environment procedures.

Prerequisite. RQD-601.

240. INSTRUCTOR TRAINING PHASE

1. Instructor Under Training

a. Purpose. Earn designation as Crew Chief Instructor (CCI).

b. General. Upon successful completion of IUT-502, CC may be designated a CCI by the commanding officer.

c. Crew Requirements. TAC, CP, CCI, CCIUI.

d. Ground/Academic Training. An in-depth oral examination shall be administered to the CCIUI. This may be conducted one-on-one with a designated CCI or may be accomplished in conjunction with GFAM-124 with the CCIUI administering the oral exam to a CCUI. The CCUI must be a designated CRM Facilitator prior to being designated a CCI.

e. Flight Training. (3 Events, 9.0 Hours)

IUT-500 3.0 C-20G

Goal. Introduce CCIUI techniques.

Requirements. CCIUI shall act in an Instructor capacity while being observed and instructed by a designated CCI.

Performance Standard. Demonstrate mastery of all C-20G procedures and systems and perform capable instruction to CCUI.

IUT-501 3.0 C-20G

Goal. Review CCIUI techniques.

Requirements. CCIUI shall act in an Instructor capacity while being observed and instructed by a designated CCI.

Performance Standard. Demonstrate mastery of all C-20G procedures and systems and perform capable instruction to CCUI.

IUT-502 3.0 E C-20G

Goal. Stage Check. Review CCIUI techniques.

Requirement. CCIUI shall act in an Instructor capacity while being observed and instructed by a designated CCI.

Performance Standard. Demonstrate mastery of all C-20G procedures and systems and perform capable instruction to CCUI.

250. REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS PHASE

1. General. These events are to be used for the annual training requirements to include NATOPS flights and official designation check-rides.

2. Requirements, Qualifications, and designations

a. Purpose. To enable the VMR Detachment to document completion of designation events. Designation codes delineate satisfactory completion of all academic, simulator, and flight requirements for individual flight requirements. Reference the appropriate 100, 200, or 300 level codes.

b. General. Flights flown in this stage do not constitute flight or simulator events in and of themselves, but instead will be logged upon completion of the appropriate syllabus event per the prerequisites listed below. Subsequent re-flight of sorties requiring the qualification will automatically update these qualification codes. If proficiency is not maintained in at least 1 of the prerequisite codes, then qualification will have to be regained by flying the appropriate R-coded sorties.

c. Ground/Academic Training. Per the appropriate level syllabus.

d. Crew Requirements. Per the appropriate syllabus event description.

e. Flight/Simulator Event Training. None.

RQD-600 0.0 E TRACKING

Goal. Complete annual NATOPS evaluation.

Requirement. Perform annual NATOPS evaluation per the operating Manual, OPNAVINST 3710, and all applicable local directives.

Performance Standard. Per Operating Manual and OPNAVINST 3710.

RQD-601 0.0 TRACKING

Goal. C-20G crew chief designation.

Requirement. Complete C-20G crew chief syllabus as outlined in this guide.

Performance Standard. Demonstrate competence in all aspects of C-20G operation.

Prerequisite. GFAM-100 thru GFAM-134, FAM-140 thru FAM-170.

AIRCRAFT: C-20G MOS: 6246 CREW POSITION: CREW CHIEF

STAGE	TRNG CODE	FLT HRS	REFLY INTERVAL	CRP	R	E	REMARKS
CORE SKILL INTRODUCTION PHASE							
GFAM	100	3.0	*	-			
	101	2.5	*	-			
	102	3.0	*	-			
	103	3.0	*	-			
	104	2.5	*	-			
	105	3.0	*	-			
	106	3.0	*	-			
	107	3.0	*	-			
	108	3.0	*	-			
	109	2.5	*	-			
	110	3.0	*	-			
	111	3.0	*	-			
	112	2.5	*	-			
	113	3.0	*	-			
	114	3.0	*	-			
	115	3.0	*	-			
	116	3.0	*	-			
	117	2.5	*	-			
	118	3.0	*	-			
	119	3.0	*	-			
	120	3.0	*	-			
	121	2.5	*	-			
	122	2.5	*	-			
	123	2.5	*	-			
	124	3.5	*	-	X		
	130	2.0	*	-	X		
	131	2.0	*	-	X		
	132	2.0	*	-	X		
	133	2.0	*	-	X		
	134	2.0	*	-	X		
FAM	140	2.5	*	-			
	141	2.5	*	-			
	142	2.5	*	-			
	150	2.5	30	-	X		
	151	2.5	*	-	X		
	152	2.5	*	-	X		
	153	2.5	*	-	X		
	154	2.5	*	-	X		
	155	2.5	*	-	X		
	156	2.5	*	-	X		
	157	2.5	*	-	X		
	158	2.5	*	-	X		
	159	2.5	*	-	X		
	160	2.5	*	-	X		
	161	2.5	*	-	X		
	162	2.5	*	-	X		
	163	2.5	*	-	X		
	170	3.0	*	-	X		
NATOPS	180	3.0	365	-	X	X	

Figure 2-1.--Event Refly Intervals.

AIRCRAFT: C-20G MOS: 6246 CREW POSITION: CREW CHIEF

STAGE	TRNG CODE	FLT HRS	REFLY INTERVAL	CRP	R	E	REMARKS
CORE SKILL BASIC PHASE							
NAV	200	10.0	60	-	X		
	201	12.0	60	-	X		
	202	12.0	60	-	X		
	203	15.0	60	-	X		
CPL	210	15.0	*	-	X		
	211	15.0	90	-	X		
	212	15.0	90	-	X		
CORE SKILL ADVANCED PHASE							
FCF	300	3.0	*	-			
	301	3.5	*	-	X	X	
AW	310	3.0	*	-	X	X	
	311	3.0	*	-	X	X	
INSTRUCTOR TRAINING PHASE							
IUT	500	3.0	*	- - - -			
	501	3.0	*	- - - -			
	502	3.0	*	- - - -		X	
REQUIREMENT, QUALIFICATION, AND DESIGNATION PHASE							
RQD	600	0.0	365	- - - -		X	Tracking
RQD	601	0.0	*				

Figure 2-1.--Event Refly Intervals, Continued.

EVENT UPDATE CHAINING

STAGE	FLIGHT	SORTIES UPDATED
NATOPS	180	124, 150
NAV	200	150
NAV	201	150, 200
NAV	202	150, 200, 201
NAV	203	150, 200, 201
CPL	210	150
CPL	211	150
CPL	212	150
RQD	600	124, 150, 180

Figure 2-2.--Event Update Chaining.

270. SYLLABUS EVENT CONVERSION MATRIX

STAGE	TRAINING CODE NEW	TRAINING CODE OLD	STAGE	TRAINING CODE NEW	TRAINING CODE OLD
GFAM	100	FAM 100	FAM	150	FAM 100
GFAM	101	FAM 101	FAM	151	FAM 110
GFAM	102	FAM 101	FAM	152	FAM 101
GFAM	103	FAM 101	FAM	153	FAM 102
GFAM	104	FAM 101	FAM	154	FAM 102
GFAM	105	FAM 101	FAM	155	FAM 103
GFAM	106	FAM 102	FAM	156	FAM 104
GFAM	107	FAM 102	FAM	157	FAM 112
GFAM	108	FAM 108	FAM	158	FAM 106
GFAM	109	FAM 102	FAM	159	FAM 107
GFAM	110	FAM 103	FAM	160	FAM 108
GFAM	111	FAM 104	FAM	161	FAM 109
GFAM	112	FAM 112	FAM	162	FAM 111
GFAM	113	FAM 106	FAM	163	FAM 100
GFAM	114	FAM 106	FAM	170	CK 120
GFAM	115	FAM 107	FAM	180	CK 120
GFAM	116	FAM 107	NAV	200	NAV 200
GFAM	117	FAM 108	NAV	201	NAV 201
GFAM	118	FAM 108	NAV	202	NAV 200
GFAM	119	FAM 108	NAV	213	NAV 201
GFAM	120	FAM 108	CPL	210	CL 300
GFAM	121	FAM 109	CPL	211	VIP 400
GFAM	122	FAM 111	CPL	212	VIP 400
GFAM	123	FAM 100	FCF	300	FAM 112
GFAM	124	FAM 112	FCF	301	FAM 112
GFAM	130	FAM 100	AW	310	FAM 112
GFAM	131	FAM 107	AW	311	FAM 112
GFAM	132	FAM 103	IUT	500	IUT 500
GFAM	133	FAM 112	IUT	501	IUT 501
GFAM	134	FAM 112	IUT	502	IUT 502
FAM	140	FAM 100	RQD	600	RQD 600
FAM	141	FAM 100	RQD	601	RQD 600
FAM	142	FAM 112			

C-20 TRAINING AND READINESS (T&R) MANUAL

CHAPTER 3

C-20G LOADMASTER

FIGURES

*** * N O T E * ***

Crew Resource Management will be briefed for all flights and aircrew positions.

300. C-20G CORE COMPETENCY

1. Mission. See chapter 1.

2. Mission Essential Task List. See chapter 1.

3. Table of Organization. See chapter 1.

4. Core Capability Statement. See chapter 1.

5. METL/Core Skill Matrix

MET	FAM	CPL
a. Conduct Airlift in the JOA.	X	X
b. Provide support to DOD and other Government Agencies.	X	X

6. Qualifications and Designations Tables. The table below delineates T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All required ground training will be completed prior to completion of the final events. Qualification letters signed by the commanding officer shall be placed in individual NATOPS and APR jackets. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R coded syllabus events associated with that qualification.

Designation (Tracking Code)	Designation Requirements
NATOPS (600E)	Completion of Familiarization and CPL stages of the Core Skills Introduction Phase indicated by successful completion of 130E(R). Designation letter signed by commanding officer.

301. POI FOR BASIC, TRANSITION, AND CONVERSION LOADMASTER. LMUI must successfully complete an aviation flight physical and be placed in a medical up-status by a flight surgeon.

WEEKS	COURSE/PHASE	ACTIVITY
1-2	Check-in	VMR Det
3-4	Loadmaster Course	CFLSW, Fort Worth JRB
5-20	Core Skill Introduction Phase	VMR-Det
21-52	Core Skill Basic Phase	VMR-Det
53-104	Core Skill Advanced Phase	VMR-Det

302. POI FOR REFRESHER LOADMASTER. LMUI must have flown in the capacity as a loadmaster in the previous 2 years in order to be eligible for this POI. All decisions as to POI eligibility rest with the commanding officer.

WEEKS	COURSE/PHASE	ACTIVITY
1-2	Check-in	VMR Det
3-4	Loadmaster Course	CFLSW, Fort Worth JRB
5-10	Core Skills Introduction Phase	VMR-Det
11-26	Core Skills Basic Phase	VMR-Det

303. POI FOR LOADMASTER INSTRUCTOR. A loadmaster must have 750 hours in model and be nominated by the commanding officer in order to be eligible for this POI.

WEEKS	COURSE/PHASE	ACTIVITY
1-3	Loadmaster Instructor Training	VMR-Det

310. SQUADRON LEVEL TRAINING

1. Every LMUI shall successfully complete the Loadmaster school offered by CFLSW held at Fort Worth JRB. This is a two-week course and covers generic loadmaster duties and responsibilities. This course must be completed as outlined in this Manual. This Manual covers type-specific duties.

2. In order to provide the widest possible exposure for the LMUI, all events, other than those delineated as ground events, must be conducted in the aircraft and every attempt should be made to conduct each event in conjunction with a line mission carrying passengers and/or cargo.

320. FLIGHT/GROUND EVENT TRAINING FOR BASIC, TRANSITION, AND CONVERSION LOADMASTER

1. Core Skill Introduction Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Ground Familiarization	0/8	0.0/24.0
Cargo and Passenger Loading	16/0	48.0/0.0
TOTAL FOR PHASE	**16/8**	**48.0/24.0**
COMBINED TOTALS	**24**	**72.0**
ACCUMULATION FOR BASIC POI	**24**	**72.0**

2. Core Skill Basic Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Cargo and Passenger Loading	4/0	40.0/0.0
TOTAL FOR PHASE	**4/0**	**40.0/0.0**
COMBINED TOTALS	**4**	**40.0**
ACCUMULATION FOR BASIC POI	**28**	**112.0**

3. Core Skill Advanced Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Cargo and Passenger Loading	2/0	13.0/0.0
TOTAL FOR PHASE	**2/0**	**13.0/0.0**
COMBINED TOTALS	**2**	**13.0**
ACCUMULATION FOR BASIC POI	**30**	**125.0**

321. FLIGHT/GROUND EVENT TRAINING FOR REFRESHER LOADMASTER

1. Core Skill Introduction Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Familiarization	0/1	0.0/3.0
Cargo and Passenger Loading	4/0	12.0/0.0
NATOPS	1/0	3.0/0.0
TOTAL FOR PHASE	**5/1**	**15.0/3.0**
COMBINED TOTALS	**6**	**18.0**
ACCUMULATION FOR BASIC POI	**6**	**18.0**

2. Core Skill Basic Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Cargo and Passenger Loading	1/0	3.0/0.0
TOTAL FOR PHASE	**1/0**	**3.0/0.0**
COMBINED TOTALS	**1**	**3.0**
ACCUMULATION FOR BASIC POI	**7**	**21.0**

322. FLIGHT/GROUND EVENT TRAINING FOR LOADMASTER INSTRUCTOR

1. Core Skills Introduction Phase

STAGE	# EVENTS (ACFT/GND)	# HOURS (ACFT/GND)
Instructor Under Training	3/0	30.0/0.0
TOTAL FOR PHASE	**3/0**	**30.0/0.0**
COMBINED TOTALS	**3**	**30.0**
ACCUMULATION FOR BASIC POI	**3**	**30.0**

330. FLIGHT/GROUND EVENT PERFORMANCE REQUIREMENTS. Aircrews shall include Crew Resource Management (CRM) as an integral part of every brief. Transition and Conversion aircrew will fly the entire Basic POI.

331. CORE SKILL INTRODUCTION PHASE

1. Purpose. Qualify LMUI as a C-20G Loadmaster.

2. General

a. The oral exam administered as part of GFAM-124 is considered to be just as important as a check-ride. If the LMUI does not demonstrate mastery of the academic knowledge inherent to CPL-125, further progression is not allowed until the deficiency is remedied.

b. This phase is designed to ensure a high level of knowledge is attained through study and instruction while utilizing the aircraft as a training aid. In order to be successful, the LMUI must arrive at each event with an in-depth working knowledge of the systems and procedures covered by the event. If the LMUI does not have a satisfactory level of knowledge at the commencement of the event, the event shall be terminated and appropriate action taken.

3. Ground Familiarization

a. Purpose. Familiarize the LMUI with the aircraft systems that pertain to the duties of a C-20G Loadmaster.

b. General

(1) The events in this stage are delineated as GFAM. GFAM events will normally be conducted as ground evolutions using the aircraft and support equipment as training tools. However, each event in this stage may be conducted in conjunction with a flight event provided a qualified and proficient Loadmaster Instructor is present.

(2) The first 3 events of this stage must be completed in order. The remaining events may be completed out of order, if necessary.

(3) This stage must be completed in its entirety prior to commencing the Cargo and Passenger Loading stage.

c. Crew Requirements. All events conducted as part of a line mission require a TAC, CP, CC, LMI, and LMUI. If the event is not in conjunction with a flight event, only the LMI and LMUI are required.

d. Flight Training. (8 Events, 24 Hours).

GFAM-100 3.0 1 C-20G

Goal. Introduce aircraft and loadmaster duties.

Requirement. Introduce overview of loadmaster duties and conduct initial walk-through of aircraft. Introduce APU procedures, pre-flight preparation duties and pre-flight inspection. Introduce emergency procedures to include fuselage fire, smoke and fume elimination, APU fire.

Performance Standard. Demonstrate sound knowledge of both normal and abnormal procedures.

GFAM-101 3.0 1 C-20G

Goal. Introduce aircraft and loadmaster duties.

Requirement. Review overview of loadmaster pre-flight duties and APU procedures. Introduce thru-flight inspection, post-flight inspection, C-20G aircraft rigs (A, B, C, D, E, F, G, J, K, M) and instructor-selected emergency procedures to include door warning in flight and rapid decompression.

Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

Prerequisite. GFAM-100.

GFAM-102 3.0 1 C-20G

Goal. Introduce doors and entrances.

Requirement. Review loadmaster duties and all required inspections. Introduce doors and entrances to include forward entrance door, operation of forward air stair with and without aircraft power, emergency exits, over-wing exits, and escape ropes. Introduce instructor-selected emergencies to include crash landing, ditch on takeoff, abnormal landing, ditching.

Performance Standard. Demonstrate sound knowledge of doors and entrances.

Prerequisite. GFAM-101.

GFAM-103 3.0 1 C-20G

Goal. Introduce Survival Equipment.

Requirement. Review loadmaster duties and all required inspections. Introduce survival equipment to include life vests, life rafts, survival kits, first aid kits, blankets, crash axe, and portable fire extinguishers.

Performance Standard. Demonstrate sound knowledge of C-20G survival equipment.

Prerequisite. GFAM-102.

GFAM-104 3.0 1 C-20G

Goal. Introduce oxygen equipment.

Requirement. Introduce oxygen equipment to include passenger and cabin crew oxygen system, first aid oxygen and masks, portable oxygen cylinders, oxygen masks (main cabin).

Performance Standard. Demonstrate sound knowledge of C-20G oxygen equipment.

Prerequisite. GFAM-103.

GFAM-105 3.0 1 C-20G

Goal. Introduce lighting and public address (PA) system.

Requirement. Introduce aircraft lighting to include normal, emergency, and evacuation lighting. Introduce the public address system to include priority and call lights.

Performance Standard. Demonstrate sound knowledge of C-20G lighting and PA system.

Prerequisite. GFAM-103.

GFAM-106 3.0 1 C-20G

Goal. Introduce lavatory system and galley.

Requirement. Introduce the lavatory system to include potable water system, filters and shutoff, servicing panel, wastewater tanks, toilet servicing, and cold

weather servicing. Introduce aircraft galley and equipment to include ovens, hot cups, cold storage ice drawer, and the galley electrical control panel and outlets.

Performance Standard. Demonstrate sound knowledge of C-20G lavatory system and galley.

Prerequisite. GFAM-103.

GFAM-107 3.0 1 C-20G

Goal. Stage Check.

Requirement. Review all aspects of the C-20G to include systems, normal, and abnormal procedures. Instructor-selected emergencies to include emergency egress of aircrew and passengers.

Performance Standard. Demonstrate mastery of loadmaster-specific systems and procedures.

Prerequisite. GFAM-104, GFAM-105, GFAM-106.

4. Cargo and Passenger Loading

a. Purpose. Expose LMUI to mission-specific issues including weight and balance, cargo loading, and passenger loading.

b. General

(1) Events shall be conducted in conjunction with line missions.

(2) All events in the Ground Familiarization stage must be completed prior to commencing the Cargo and Passenger Loading stage.

c. Crew Requirements. In addition to a TAC, CP, and CC, a qualified and proficient Loadmaster is required for these events in order to supervise the LMUI and meet the minimum crew requirements.

d. Ground/Academic Training. The CFLSW-approved Loadmaster ground school must be completed prior to commencing this stage.

e. Flight Training. (16 Events, 48 Hours).

CPL-110 3.0 1 C-20G

Goal. Introduce LMUI to aircraft and loadmaster duties.

Requirement. Review loadmaster pre- and post-flight duties, APU procedures, and aircraft rigs. Introduce loadmaster brief techniques and procedures to include departure, thru-briefs and seat belt demonstration.

Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

Prerequisite. GFAM-107.

CPL-111 3.0 1 C-20G

Goal. Introduce LMUI to aircraft and loadmaster duties.

Requirement. Review loadmaster pre- and post-flight duties, APU procedures, aircraft rigs, departure brief, thru-brief, seat belt demonstration, and instructor-selected emergencies. Introduce approach brief, over-water brief, landing brief, and abnormal landing brief.

Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

Prerequisite. CPL-110.

CPL-112 3.0 1 C-20G

Goal. Introduce LMUI to aircraft and loadmaster duties.

Requirement. Review loadmaster pre- and post-flight duties, APU procedures, aircraft rigs, and instructor-selected briefs and emergencies. Introduce VIP brief and procedures.

Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

Prerequisite. CPL-111.

CPL-113 3.0 R 1 C-20G

Goal. Review aircraft and loadmaster duties.

Requirement. Review loadmaster pre- and post-flight duties, APU procedures, aircraft rigs, instructor-selected briefs and emergencies, and passenger handling.

Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

Prerequisite. CPL-112.

CPL-114 3.0 1 C-20G

Goal. Introduce mission planning.

Requirement. Introduce mission planning concepts and procedures to include load planning, cargo inspection, cargo loading and unloading, cargo loading and offloading, passenger handling, and air terminal operations.

Performance Standard. Demonstrate sound knowledge of covered material.

Prerequisite. CPL-113.

CPL-115 3.0 1 C-20G

Goal. Introduce mission planning.

Requirement. Introduce mission planning concepts and procedures to include Form F, Logistics Flight Record, NAVFLIR, baggage handling, crew coordination.

Performance Standard. Demonstrate sound knowledge of covered material.

Prerequisite. CPL-114.

CPL-116 3.0 1 C-20G

Goal. Introduce mission planning.

Requirement. Introduce mission planning concepts and procedures to include customs, agriculture, mail handling, classified material, arms and ammunition, hazardous cargo, oversized cargo, piercing or penetrating cargo, compressible and incompressible cargo, shoring, restraint requirements, and live animal cargo.

Performance Standard. Demonstrate sound knowledge of covered material.

Prerequisite. CPL-115.

CPL-117 3.0 R 1 C-20G

Goal. Review mission planning.

Requirement. Review all concepts of loadmaster mission planning.

Performance Standard. Demonstrate sound knowledge of mission planning concepts.

Prerequisite. CPL-116.

CPL-118 3.0 1 C-20G

Goal. Introduce passenger handling responsibilities.

Requirement. Introduce passenger handling to include identification requirements, proper attire, VIP, dependents, and passenger baggage.

Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

Prerequisite. CPL-113.

CPL-119 3.0 1 C-20G

Goal. Introduce Weight and Balance (W&B).

Requirement. Introduce W&B terminology and publications to include the NAVAIR 01-1B-40, 01-1B-50, 01-C20AAA-1.

Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

CPL-120 3.0 1 C-20G

Goal. Introduce W&B.

Requirement. Review W&B terminology and applicable publications. Introduce load charts and forms to include DD-365, DD-365-1, DD-365-2, DD365-3, DD365-4, chart E, and Form F.

Performance Standard. Demonstrate sound knowledge of covered material.

Prerequisite. CPL-119.

CPL-121 3.0 R 1 C-20G

Goal. Review W&B.

Requirement. Review W&B terminology, applicable publications, and load charts and forms. Complete several examples of W&B computations using multiple aircraft configurations.

Performance Standard. Demonstrate sound knowledge of covered material.

Prerequisite. CPL-120.

CPL-122 3.0 1 C-20G

Goal. Introduce cargo loading equipment.

Requirement. Introduce cargo loading equipment to include forklift, K-loader, high lift truck, roller tongs, pallets, and nets. Conduct loading exercises with each piece of equipment until familiar.

Performance Standard. Demonstrate sound knowledge of equipment used in cargo loading.

CPL-123 3.0 1 C-20

Goal. Introduce cargo loading systems.

Requirement. Introduce cargo loading systems to include rigid end restraint, side guide rails, roller conveyor assemblies, ball transfer conveyors, retractable dual-end restraints, and doorsill conveyor assemblies. Review cargo-loading equipment.

Performance Standard. Demonstrate sound knowledge of equipment used in cargo systems.

CPL-124 3.0 1 C-20G

Goal. Introduce cargo handling.

Requirement. Introduce cargo handling to include oversized cargo, piercing or penetrating cargo, shoring, dunnage, alternate restraint, restraint requirements, and live animal handling. Review cargo-loading equipment and cargo-loading systems.

Performance Standard. Demonstrate sound knowledge of cargo handling concepts.

CPL-125 3.0 R 1 C-20G

Goal. Stage Check.

Requirement. Evaluate LMUI progress. Review all aspects of cargo and passenger loading.

Performance Standard. Demonstrate mastery of cargo and passenger handling concepts.

5. NATOPS/Loadmaster Evaluation

a. Purpose. Conduct a Core Skill Introduction evaluation leading to a NATOPS designation as a C-20G Loadmaster.

b. General. A designated NATOPS Loadmaster Instructor will observe and certify that the LMUI is NATOPS qualified per the applicable directives. Satisfactory completion of the NATOPS ground evaluation is a prerequisite for the NATOPS flight evaluation.

c. Crew Requirements. TAC, CP, CC, LMI, LMUI.

d. Ground/Academic Training. LMUI shall complete NATOPS open/closed book tests prior to evaluation flight.

e. Flight Training. (1 Event, 3.0 Hours).

CK-130 3.0 R E 1 C-20G

Goal. Evaluate loadmaster knowledge of aircraft systems and normal and abnormal emergency procedures.

Requirement. Perform all duties as loadmaster on the C-20G during a line mission. The mission must include an overnight visit to a field other than the home field. Perform all procedures IAW NATOPS procedures to include all Operating Manuals and Standard Operating Procedures. Instructor selected emergencies.

Performance Standard. LMUI shall perform all duties and procedures IAW applicable directives.

Prerequisite. CPL-125.

332. CORE SKILL BASIC PHASE

1. Cargo and Passenger Loading

a. Purpose. Expose loadmaster to mission-specific situations in order to build experience.

b. General. Events in this stage shall be conducted in conjunction with line missions as outlined in each description.

c. Crew Requirements. TAC, CP, CC, LM.

d. Flight Training. (4 Events, 40 Hours).

CPL-200 10.0 1 C-20G

Goal. Conduct passenger loading at a military airfield.

Requirement. Perform all standard loadmaster duties during a line mission carrying passengers and/or cargo into or out of a military airfield.

Performance Standard. Perform all loadmaster duties in accordance with applicable directives.

CPL-201 10.0 1 C-20G

Goal. Conduct passenger loading at a civilian airfield.

Requirement. Perform all standard loadmaster duties during a line mission carrying passengers and/or cargo into or out of a civilian airfield.

Performance Standard. Perform all loadmaster duties in accordance with applicable directives.

CPL-202 10.0 1 C-20G

Goal. Conduct passenger loading at an international airfield.

Requirement. Perform all standard loadmaster duties during a line mission carrying passengers and/or cargo into or out of an international airfield. Ensure all documentation required by foreign officials is completed and in order prior to arrival.

Performance Standard. Perform all loadmaster duties in accordance with applicable directives.

CPL-203 10.0 R 1 C-20G

Goal. Review loadmaster duties.

Requirement. Perform all standard loadmaster duties during a line mission under the supervision of a current and proficient loadmaster.

Crew Requirement. TAC, CP, CC, LMI/LM, LM, LMUI.

Performance Standard. Perform all loadmaster duties in accordance with applicable directives.

333. CORE SKILL ADVANCED PHASE

1. Cargo and Passenger Loading

a. Purpose. Expose loadmaster to mission-specific situations in order to build experience.

b. General. Events in this stage shall be conducted in conjunction with line missions as outlined in each description.

c. Crew Requirement. TAC, CP, CC, LM.

d. Ground/Academic Training. Receive Advanced Phase brief from a LMI.

e. Flight Training. (2 Events, 13 Hours).

CPL-300 10.0 1 C-20G

Goal. Expose loadmaster to VIP operations.

Requirement. Perform all standard loadmaster duties during a line mission carrying passengers who rate VIP status.

Performance Standard. Perform all loadmaster duties in accordance with applicable directives.

CPL-301 3.0 R 1 C-20G

Goal. Expose loadmaster to hazardous cargo operations.

Requirement. Perform all standard loadmaster duties during a line mission carrying hazardous cargo in accordance with MCO P4030.19.

Performance Standard. Perform all loadmaster duties in accordance with applicable directives.

340. LOADMASTER INSTRUCTOR TRAINING

1. Instructor Under Training

a. Purpose. Qualify loadmaster as an LMI in the C-20G.

b. General

(1) To be eligible for this stage, the LM must be nominated by the standardization board and approved by the commanding officer.

(2) Upon completion of IUT-502, the LMIUI is eligible for designation as a LMI by the commanding officer.

c. Crew Requirement. TAC, CP, CC, LMI, LMIUI.

d. Ground/Academic Training. The LMUI must be a designated CRM Facilitator prior to being designated a LMI.

e. Flight Training. (3 Events, 30 Hours).

IUT-500 10.0 1 C-20G

Goal. Introduce LMIUI to teaching concepts.

Requirement. Monitor a designated LMI instructing a LMUI in all facets of aircraft operations and loadmaster duties. Discuss specific instructor techniques. Discuss all publications and duties from an instructing standpoint.

Performance Standard. Monitor LMI-led mission.

IUT-501 10.0 1 C-20G

Goal. Conduct a mission acting as LMI instructing a LMUI.

Requirement. Lead an instructional mission that covers all facets of aircraft operations and loadmaster duties. Emphasize academic knowledge and instructional techniques.

Performance Standard. Conduct a safe and efficient mission while instructing a LMUI.

Prerequisite. IUT-500.

IUT-502 10.0 E 1 C-20G

Goal. Stage Check.

Requirement. Lead an instructional mission that covers all facets of aircraft operations and loadmaster duties. Emphasize academic knowledge and instructional techniques.

Performance Standard. Demonstrate mastery of all knowledge and control of every situation while conducting an instructional mission.

Prerequisite. IUT-501.

350. REQUIREMENTS, QUALIFICATIONS, AND DESIGNATIONS PHASE

1. General. These events are to be used for the annual training requirements to include NATOPS flights and official designation check-rides.

2. Requirements, Qualifications, and Designations

a. Purpose. Enable the VMR Detachment to document completion of designation events. Designation codes delineate satisfactory completion of all academic, simulator, and flight requirements for individual flight requirements. Reference the appropriate level codes.

b. General. Flights flown in this stage do not constitute flight or simulator events in and of themselves, but instead will be logged upon completion of the appropriate syllabus event per the prerequisites listed below. Subsequent re-flight of events requiring the qualification will automatically update these qualification codes. If proficiency is not maintained in at least one of the prerequisite codes, then qualification will have to be regained by flying the appropriate R-coded sorties.

c. Crew Requirements. Per the applicable syllabus event description.

d. Flight Training

RQD-600 0.0 E 1 C-20G

Goal. Complete annual NATOPS evaluation.

Requirement. Perform annual NATOPS evaluation per the Operating Manual, OPNAVINST 3710, and all applicable directives.

Prerequisite. CK-130.

Performance Standard. Per Operating Manual and OPNAVINST 3710.

AIRCRAFT: C-20G CREW POSITION: LOADMASTER

STAGE	TRNG CODE	FLT HRS	REFLY INTERVAL	CRP	R	E	REMARKS
CORE SKILL INTRODUCTION PHASE							
GFAM	100	3.0	*	-			
	101	3.0	*	-			
	102	3.0	*	-			
	103	3.0	*	-			
	104	3.0	*	-			
	105	3.0	*	-			
	106	3.0	*	-			
	107	3.0	90	-	X		
CPL	110	3.0	*	-			
	111	3.0	*	-			
	112	3.0	*	-			
	113	3.0	*	-	X		
	114	3.0	*	-			
	115	3.0	*	-			
	116	3.0	*	-			
	117	3.0	*	-	X		
	118	3.0	*	-			
	119	3.0	*	-			
	120	3.0	*	-			
	121	3.0	*	-	X		
	122	3.0	*	-			
	123	3.0	*	-			
	124	3.0	*	-			
	125	3.0	90	-	X		
CK	130	3.0	365	-	X	X	
CORE SKILL BASIC PHASE							
CPL	200	10.0	90	-			
	201	10.0	90	-			
	202	10.0	90	-			
	203	10.0	90	-	X		
CORE SKILL ADVANCED PHASE							
CPL	300	10.0	*	-			
	301	3.0	*	-	X		
INSTRUCTOR TRAINING PHASE							
IUT	500	10.0	*	- - - -			
	501	10.0	*	- - - -			
	502	10.0	*	- - - -		X	
REQUIREMENTS, QUALIFICATIONS, AND DESIGNATION PHASE							
RQD	600	0.0	365	- - - -	X		Tracking

Figure 3-1.--Refly Interval.

EVENT UPDATE CHAINING

STAGE	FLIGHT	SORTIES UPDATED
CPL	125	107
CK	130	107, 125
CPL	200	107, 125
CPL	201	107, 125, 200
CPL	202	107, 125, 200, 201
CPL	203	107, 125, 200, 201, 200
CPL	300	107, 125

Figure 3-2.--Event Update Chaining.

370. SYLLABUS EVENT CONVERSION MATRIX

STAGE	TRAINING CODE NEW	TRAINING CODE OLD	STAGE	TRAINING CODE NEW	TRAINING CODE OLD
GFAM	100	FAM 100	CPL	120	CPL 200
GFAM	101	FAM 100	CPL	121	CPL 200
GFAM	102	FAM 100	CPL	122	CPL 117
GFAM	103	CPL 113	CPL	123	CPL 117
GFAM	104	CPL 114	CPL	124	CPL 117
GFAM	105	CPL 114	CPL	125	CK 130
GFAM	106	CPL 115	CK	130	CK 130
GFAM	107	CPL 201	CPL	200	CPL 200
CPL	110	CPL 110	CPL	201	CPL 200
CPL	111	CPL 111	CPL	202	CPL 200
CPL	112	CPL 111	CPL	203	CPL 201
CPL	113	CK 130	CPL	300	VIP 300
CPL	114	CPL 200	CPL	301	CPL 400
CPL	115	CPL 200	IUT	500	500
CPL	116	CPL 200	IUT	501	501
CPL	117	CPL 201	IUT	502	502
CPL	118	CPL 116	RQD	600	RQD 600
CPL	119	CPL 201			